ORDER NO. VSD9004M602

Service Manual

Panasonic VHS PAL Hi-Fi

Operating Instructions
Mechanical Adjustment Procedures
Electrical Adjustment Procedures
Block Diagrams
Schematic Diagrams
Circuit Board Diagrams
Exploded Views
Replacement Parts List

Duplicator

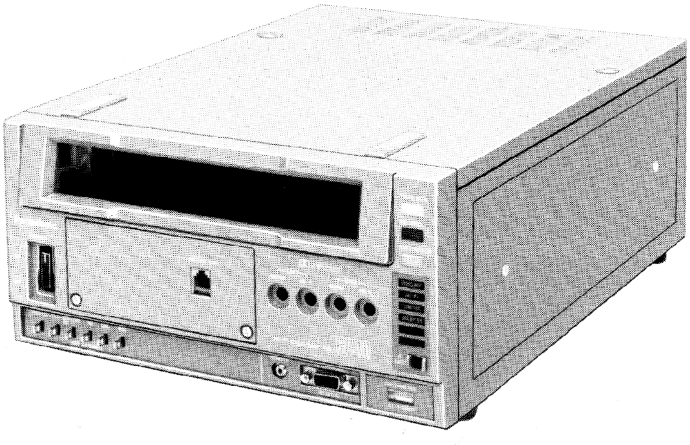
AG-6840H-E -B -A

Audio Meter

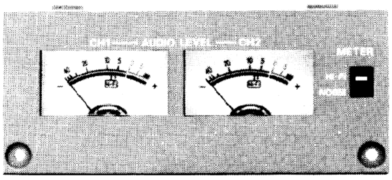
AG-AM10

Audio Meter Unit

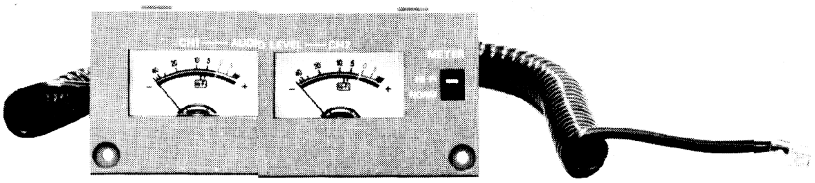
AG-AM20



(AG-6840H)



(AG-AM10)



(AG-AM20)

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This Service Manual contains all the technical information which will allow service personnel to understand and service this Panasonic dubbing video cassette recorder Models AG-6840H.
The AG-6840H is dubbing VTR for use in recording. By the use of the 3 Remote control system (34 pin Remote Control, Serial Remote Control, Remote Control), various use is obtained. The AG-6840H has many optional accessories (Remote Controller, Cassette Auto Changer, Audio Meter etc. ...) as described later.
These features in addition to the basic format make the AG-6840H an ideal unit for business application.

Just slightly ahead of our time...Panasonic

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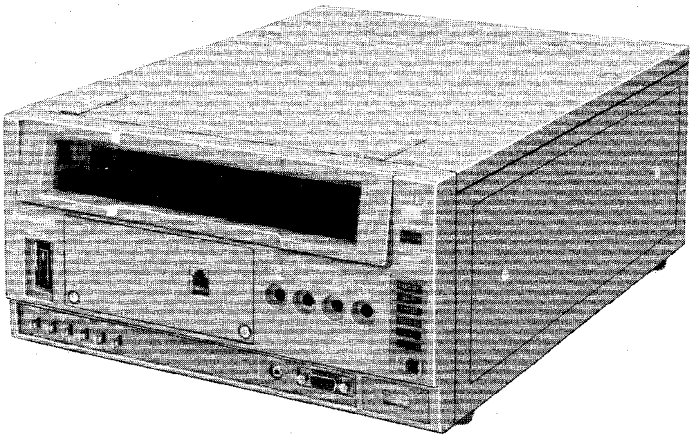
Video Cassette Recoder

AG-6840H

-E
-B
-A



SPECIFICATIONS

ITEM	SPECIFICATION
Power	Source: AC 220~240V, 50~60Hz
	Consumption: Approx 30watts
Video	Head: 2 rotary heads, helical scanning system (49μm × 2)
	Luminance: FM azimuth recording
	Color signal: Converted subcarrier phase shift recording
	Input Level: VIDEO IN (BNC) 1.0Vp-p 75Ω unbalanced
	Signal-to-Noise Ratio: more than 44dB (Color)
	Horizontal Resolution: more than 240 lines (Color)
Audio	Head: Normal Audio/Control: 1 starionary head Hi-Fi Audio: 2 rotary heads (36μm × 2) Erase: 1 full track erase
	Track: 2 track (Normal-stereo), 2 channels (Hi-Fi sound-stereo)
	Input Level: AUDIO IN (phono): −8dB 100kΩ unbalanced

ITEM	SPECIFICATION
Audio	Signal to Noise Ratio: 48dB (Normal/Dolby NR ON)
	Dynamic Range: 90dB (Hi-Fi)
	Frequency Response: 20Hz~20kHz (Hi-Fi audio track) 50Hz~10kHz (Normal audio track)
	Wow Flatter: 0.18% (Normal Audio) 0.005% (Hi-Fi Audio)
Television System	CCIR Standerd (625 lines, 50 fields) PAL Colour Signal
Tape Speed	23.39mm/sec Record Time: 180min. with NV-SE180E FF/REW Time: Approx 3 min. with NV-SE180E
Tape Format	VHS Format Tape width 1/2″ (12.7mm) high density tape
Operating Condition	41°F (5°C)~104°F (40°C) (Temperature) 35%~80% (Humidity)
Dimensions	270 (W) × 144.5 (H) × 370 (D) mm
Weight	Approx 6.8kg

(Specifications are measured when played back with standard studio VTR.)
Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

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Features

Model	Features
AG-6840H	Recording only with High-Solidarity Cylinder
AG-6850H	Recording and playback with High-Solidarity Cylinder

Series and Serial Remote Recordings (special for dubbing use)

■ Series Remote Recording

- By using the Remote Controller AG-A600 (option), it is possible to control the AG-6840H/6850H via the 34 Pin Remote Control Connector.
- By using the Remote Controller AG-A11 (option), it is possible to control AG-6840H/6850H independently.

■ Serial Remote Recording

- By using the Serial Remote Transmitter Unit AG-IA12 (option), it is possible to control a maximum of 500 AG-6840H/6850H units at a time.

Hi-Fi Audio Recording

The Hi-Fi recording system records an audio signal that has been converted to a wide-band FM signal. Hi-Fi audio recording uses 2 rotating heads exclusively for audio recording.

Audio Input Jacks for Normal Audio and Hi-Fi Audio

There are independent input jacks for normal audio and Hi-Fi audio on the rear panel.
(AG-6850H is also provided with independent output jacks for normal audio and Hi-Fi audio.)

Loop Through Output Jacks (Loop Through Type, 75 ohm Termination)

As this unit is provided with jacks which can bridge video and normal audio inputs, it is possible to expand the system without installing additional distribution amps.

AUTO OFF and STAND-BY Output Jacks

- During the AUTO OFF mode, AUTO OFF Jack outputs a signal to indicate an error has occured.
- The STAND-BY Jack outputs a signal which can identify the VTR's operations shifting to another mode.

Test Terminals

The output of the video and Hi-Fi Audio heads, Phase Generator and Drop Out Compensation can be confirmed with an oscilloscope at the test terminals provided on the front panel.

Mode Selection

The following modes can be selected using the internal switches or the Serial Remote Transmitter Unit AG-IA12 (option).

Modes	Selectable by
• Video AGC • Hi-Fi Audio Recording • Audio Limiter • Dolby NR	Internal Switch or Serial Remote Transmitter Unit AG-IA12 (option)
• Short FF • Cassette In REW • Changer Start • Direct Rec • Rec Auto Off • Buffer	Internal Switch

Audio Level Meter (option)

Audio Level Meter (option) is convenient for monitoring the audio recording levels.

Compact and Easy to Carry

Other Characteristics

- A Dolby NR* System is built in for normal audio.
- An optional Cassette Auto Changer AG-CL78/AG-CL68 can be mounted to this unit.
  For details, refer to the Operating Instructions of the AG-CL78/AG-CL68.

When installing the Cassette Auto Changer or setting the internal switches, refer to a qualified service personnel.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

* "DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Inspection

Optional Accessories

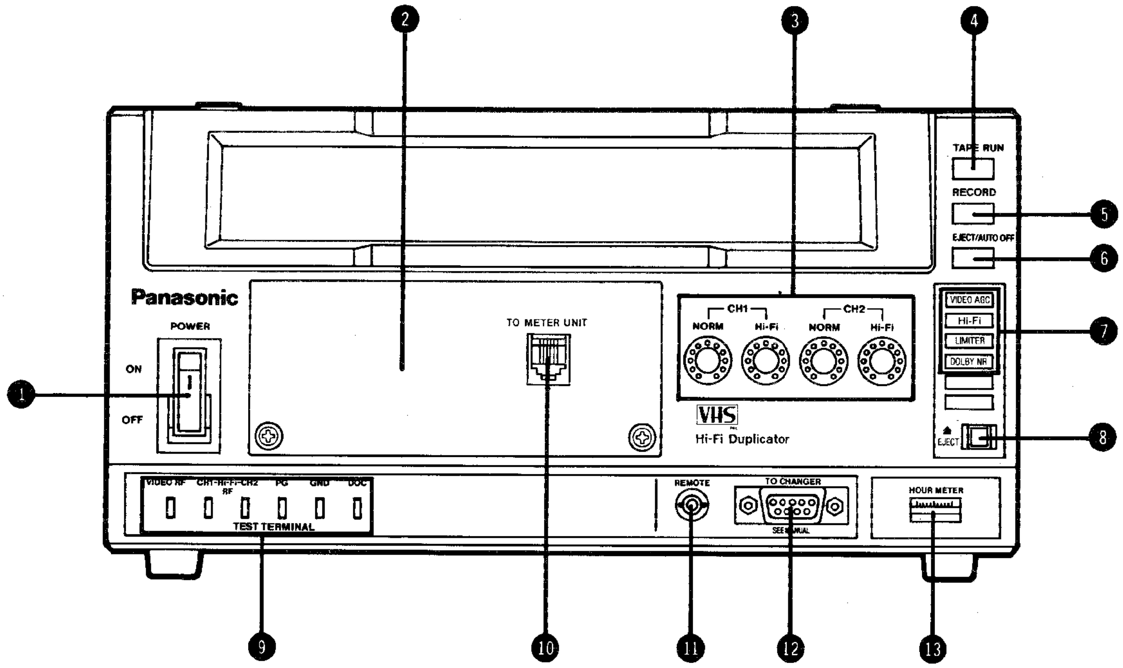
- Remote Controller AG-A600 (34P)
- Remote Controller AG-A11 (M2 Plug)
- Cassette Auto Changer AG-CL78/AG-CL68
- Serial Remote Transmitter Unit AG-IA12
- Audio Meter AG-AM10
- Audio Meter Unit AG-AM20
- ID Generator AG-ID10
- Tape Evaluator AG-TE10

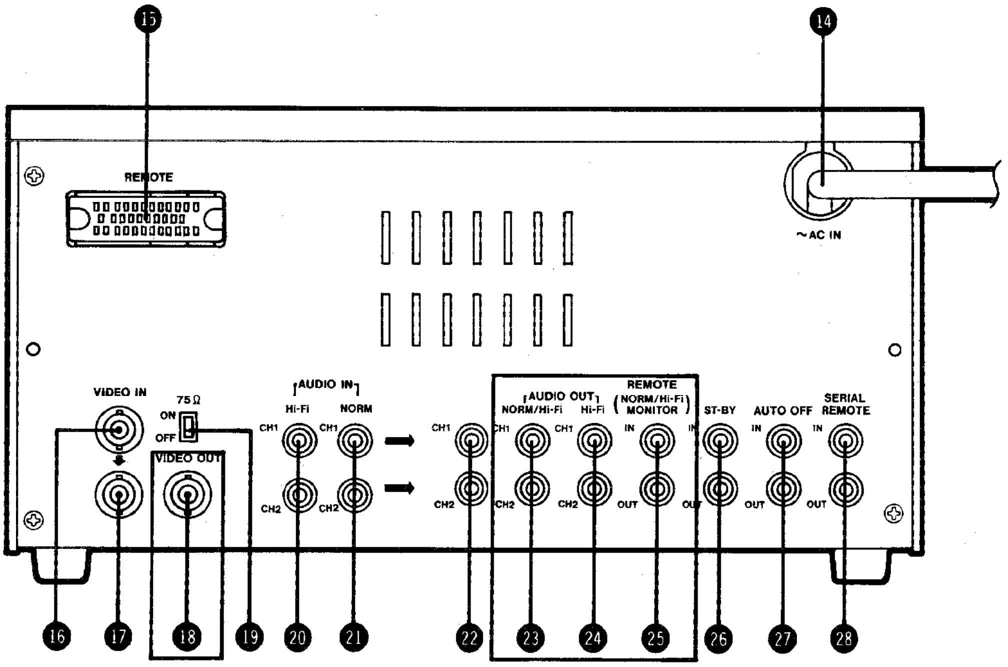
For details of conections or installation, refer to the Operating Instructions for each option.

AG-6840H is designed exclusively for 3-hour recording while AG-6850H is 3-hour recording and playback.

WARNING: Unauthorized recording of copyrighted television programmes, films, video tapes and other materials may infringe on the rights of copyright owners and be contrary to copyright laws.

Controls and their Functions


❷
❸
❹
TAPE RUN
RECORD
❺
EJECT/AUTO OFF
❻
Panasonic
POWER
ON
OFF
❶
TO METER UNIT
CH1
CH2
NORM
Hi-Fi
NORM
Hi-Fi
VIDEO AGC
Hi-Fi
LIMITER
DOLBY NR
❼
VHS
Hi-Fi Duplicator
EJECT
❽
VIDEO RF
CH1-Hi-Fi-CH2 RF
PG
GND
DOC
TEST TERMINAL
REMOTE
TO CHANGER
HOUR METER
❾
❿
⓫
⓬
⓭


⓯
⓮
REMOTE
~AC IN
VIDEO IN
75Ω
ON
OFF
VIDEO OUT
AUDIO IN
Hi-Fi
NORM
CH1
CH2
AUDIO OUT
NORM/Hi-Fi
Hi-Fi
REMOTE
(NORM/Hi-Fi MONITOR)
ST-BY
AUTO OFF
SERIAL REMOTE
IN
OUT
⓰
⓱
⓲
⓳
⓴
㉑
㉒
㉓
㉔
㉕
㉖
㉗
㉘

❶ Power Switch

When set to the ON position, the Eject/Auto OFF Lamp ❻ lights if no cassette is inserted.

❷ Peak Meter (Option)

These meters indicate the peak audio input level.
Use the level controls to adjust the input signal as follows:

- Supply a standard signal to the Audio Input Jack. Adjust the level so that the needle of the level meter indicates as below.
  Normal Audio: Hi-Fi Position
  Hi-Fi Audio: Hi-Fi Position
- Supply normal sound and check that the needle of the level meter does not exceed the "0" position.
- Dolby NR Level: The Dolby NR level is located at the "–6" position.

❸ Audio Input Level Control (CH1/CH2)

These controls are used to adjust the audio input level while monitoring the Audio Meter AG-AM10 (option) or Audio Meter Unit AG-AM20 (option).

❹ Tape Run Lamp

Lights: During FF or REW mode.
Flashes: During cassette tape with CTL signal is running.

❺ Record Lamp

Lights: Recording mode
Flashes: No signal is input in the recording mode, or when the "Rec Auto Off" (internal switch) is turned ON.

❻ Eject/Auto OFF Lamp

Lights: No cassette is inserted
Flashes: Malfunction has occured to the tape transport system. The unit will not operate.

❼ Mode Indicator Lamps

VIDEO AGC:	Lights when the "Video AGC (Automatic Gain Control)" is turned ON.
Hi-Fi:	Lights when the "Hi-Fi Audio Recording" is turned ON.
LIMITER:	Lights when the "Audio Limiter" is turned ON.
DOLBY NR:	Lights when the "Dolby NR" is turned ON.

❽ Eject Button

❾ Test Terminals

An oscilloscope can be connected to these terminals for confirmation of Video and Hi-Fi Audio RF output during playback, as well as Phase Generator and Drop Out Compensation.

❿ To Meter Unit Connector

To confirm the audio recording meter level, connect the Audio Meter Unit AG-AM20 (option).

⓫ Remote Control Connector

Exclusively for the Remote Controller AG-A11 (option).

⓬ To Changer Connector

Connect the VTR Connector of the Cassette Auto Changer AG-CL78 or AG-CL68 (option).

Pin No.	Signal	Pin No.	Signal
1	+20 V Output	6	AUTO OFF Output
2	+5 V Output		
3	GND	7	EJECT SW (1)
4	CAS IN Output	8	EJECT SW (2)
5	CAS OUT Output	9	START Output

⓭ Hour Meter

Indicates the head rotation time (maximum 5000 hours).

⓮ Remote Control Connector (34P)

Connect to the Remote Controller AG-A600 (option).

Pin No.	Signal	Pin No.	Signal
1	REC SWITCH	19~20	——
2	PLAY SWITCH	21	EJECT SWITCH
3	FF SWITCH	22	——
4	REW SWITCH	23	REC HOLD
5	STOP SWITCH	24	PLAY HOLD
6	——	25	FF HOLD
7	PAUSE SWITCH	26	REW HOLD
8	CASSETTE IN	27	STOP HOLD
9~11	——	28	——
12	GND	29	PAUSE HOLD
13~17	——	30~33	——
18	REEL PULSE	34	+12 V (Max. 100 mA)

- HOLD signals are output by open collector circuits. Therefore, user's remote controller circuit for these pins should be designed as open collector output circuits or Transistor Transistor Logic (TTL) level.
- Number 34 pin (+12 V) should be used only for our remote controller AG-A600.

⓯ AC Power Cord

3-pin grounded type. Do not defeat its purpose.

⑯ Video Input Connector (BNC type)

⑰ Video Input Connector (Loop through type)
This connector can bridge the Video Input Connector ⑯.

AG-6850H only

⑱ Video Output Connector (BNC type)

⑲ Terminate ON/OFF Switch
Set this switch to OFF when performing series connection of video input signal. Normally place to the ON position.

⑳ Hi-Fi Audio Input Jacks

㉑ Normal Audio Input Jacks
When the input is connected to these jacks and "Hi-Fi Audio Recording" (internal switch) is set to ON, Hi-Fi audio recording is also done automatically.

㉒ Audio Input Jacks (Loop through type)
These jacks can bridge the Normal Audio Input Jacks ㉑.

AG-6850H only

㉓ Audio Monitor Output Jacks
These are audio output jacks for normal audio and Hi-Fi audio.

㉔ Hi-Fi Audio Output Jacks
Exclusively for Hi-Fi audio.

㉕ Normal/Hi-Fi Monitor Remote Control Jacks

IN: An ON/OFF Remote Control Switch is connected for monitor selection of the audio signal.
ON: Hi-Fi audio
OFF: Normal audio

OUT: For series connection of ON/OFF control signal.

㉖ Stand-by Jacks
This jack outputs signal which indicates that the unit is in the modes besides EJECT, STOP, REC/PLAY and REC/PLAY PAUSE.

㉗ AUTO OFF Jacks
This jack outputs signal which indicates that an error has occured.
In this case, the unit will not operate.

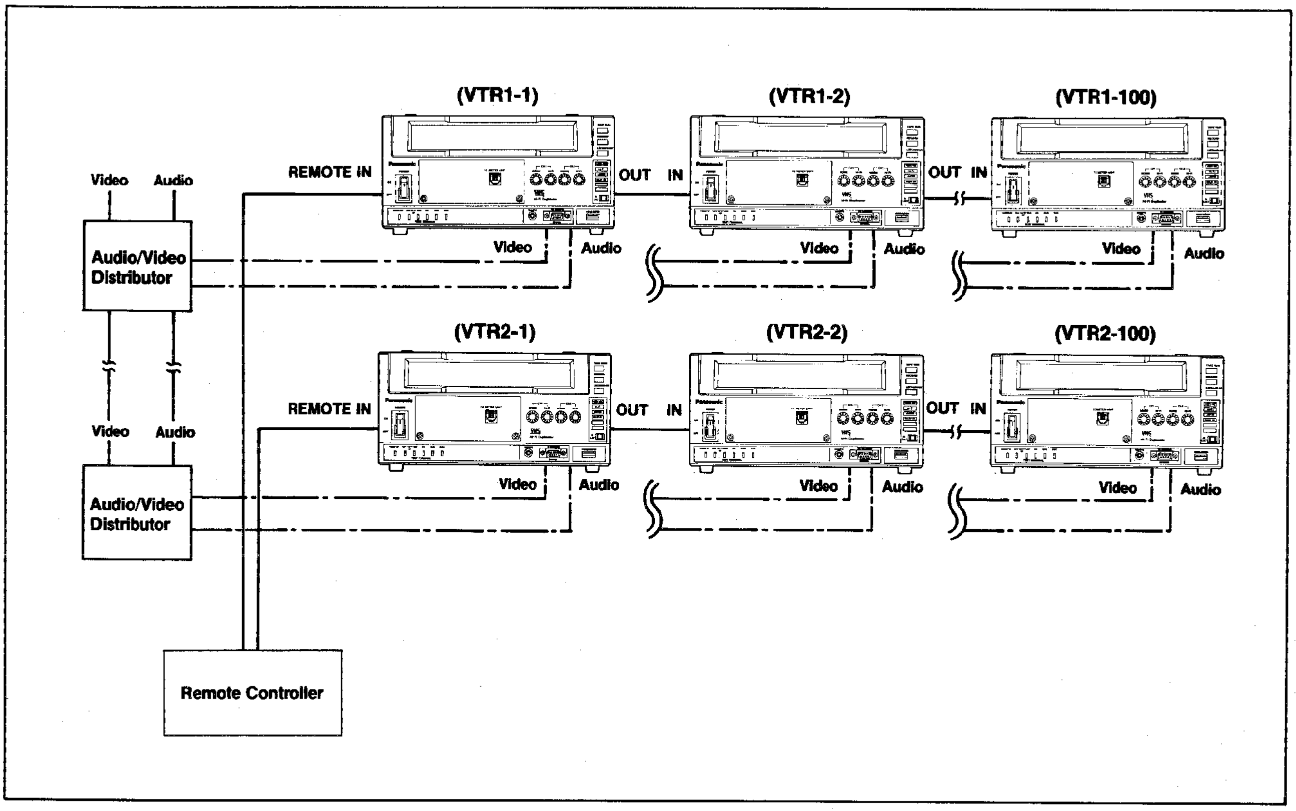
㉘ Serial Remote Control Jacks
Exclusively for the Serial Remote Transmitter Unit AG-IA12 (option).

Note:

- Do not perform the REVIEW operation when using the AG-6840H. This operation is used only during maintenance.

Connection

Basic Remote Recording


(VTR1-1)
(VTR1-2)
(VTR1-100)
Video
Audio
REMOTE IN
OUT
IN
OUT
IN
Audio/Video Distributor
Video
Audio
Video
Audio
Video
Audio
(VTR2-1)
(VTR2-2)
(VTR2-100)
Video
Audio
REMOTE IN
OUT
IN
OUT
IN
Audio/Video Distributor
Video
Audio
Video
Audio
Video
Audio
Remote Controller

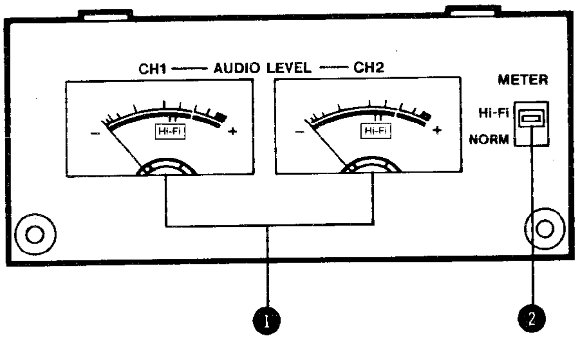
Notes:

- Be sure to use the AG-6840H/6850H output signals with this system. Improper operation may occur if any other output system is used.
- Keep the connections to a maximum length of 200 m for one remote output connector and to a maximum of 100 units. Otherwise, waveform distortion may occur.
- •With one Audio/Video Distributor, up to 10 connections are available.
  •With one Audio/Video Connector of the Audio/Video Distributor, series remote connection of up to 3 units is available.
  (This means, with one Audio/Video Distributor, it is possible to connect a maximum of 30 AG-6840H/6850H units.)
- When operating the unit using the remote controller, leave a gap of at least two seconds between each successive press of the buttons of the controller.

AG-AM10/AG-AM20 (Option)

■ Audio Meter AG-AM10

When this Audio Meter is installed onto the AG-6840H/6850H peak meter section, it is use to set and confirm the audio input level. Use the "Audio Input Level Controls" provided on the front panel of the AG-6840H/6850H for adjusting.


CH1 —— AUDIO LEVEL —— CH2
METER
Hi-Fi
NORM
-
+
Hi-Fi
-
+
Hi-Fi
1
2

① Audio Level Meter

The meter indication can be switched between Normal and Hi-Fi Audio by means of the Meter Selector.

② Meter Selector

This selector selects between Normal and Hi-Fi Audio for Audio Level Meter.

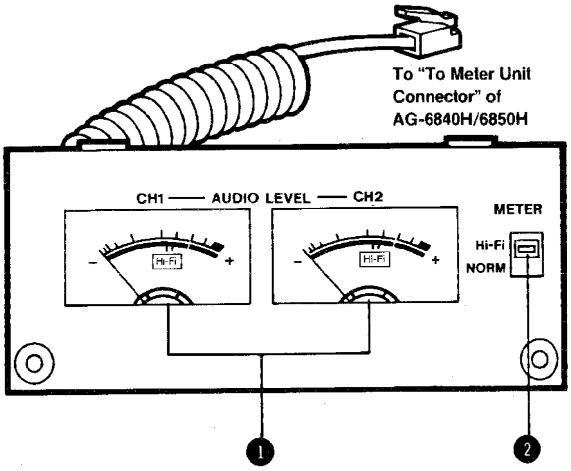
■ Audio Level Adjustment

Adjust the audio input of AG-AM10/AG-AM20 to indicate −8 dB when standard signal (1 kHz, −8 dBv) is input.
Be sure to confirm before using.

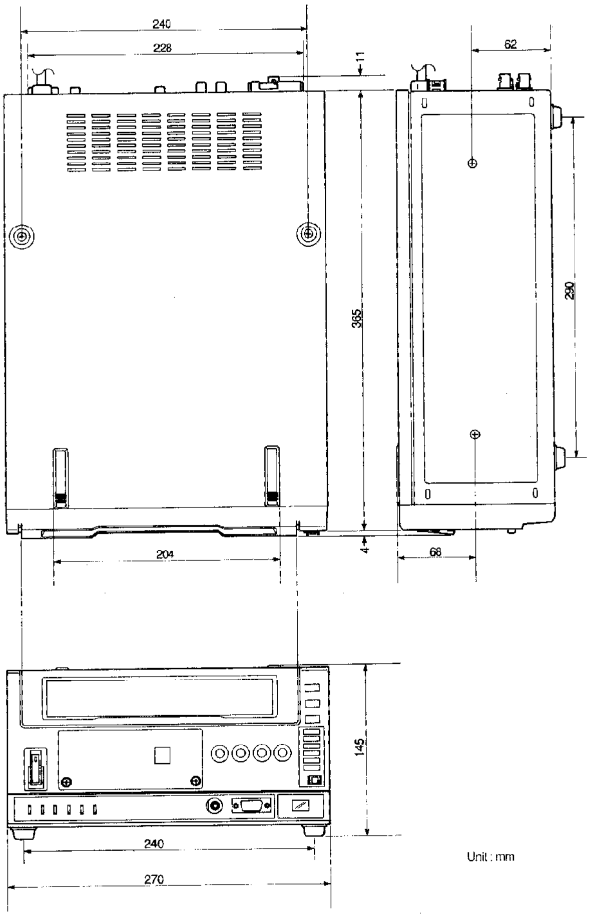
Without this unit, initial setting (audio level) of the VTR cannot be set.
The audio level of AG-6840H/6850H is set to −8 dB.

■ Audio Meter Unit AG-AM20

This unit is a compact audio meter used to set and confirm the audio input level of AG-6840H/6850H.
It can easily be used only by connecting to the "To Meter Unit Connector" provided on the front panel of the AG-6840H/6850H. Use the "Audio Input Level Controls" for adjusting.


To "To Meter Unit Connector" of AG-6840H/6850H
CH1 —— AUDIO LEVEL —— CH2
METER
Hi-Fi
NORM
-
+
Hi-Fi
-
+
Hi-Fi
1
2

DIMENSIONS


240
228
11
62
365
290
204
4
66
145
240
270

Unit : mm

Operation

TAPE RUN LAMP

MODE	TAPE RUN LAMP	REMARK
FF; REW	LIGHT	——
REC	FLASH (EVERY 1 SECOND)	
PLAY	FLASH (EVERY 1 SECOND)	Tape Run Lamp is flashed by CTL pulse, so if the tape without CTL pulse is used, Tape Run Lamp doesn't flash.
CUE, REVIEW	FLASH (EVERY 0.2 SECOND)	

REC LAMP

MODE	REC LAMP	REMARK
REC/REC PAUSE	LIGHT	——
REC or REC PAUSE	FLASH (EVERY 1 SECOND)	When REC AUTO OFF SW (SW6512) is set to "ON" side if Video Signal is accidentally stopped during Rec mode, REC LAMP and AUTO OFF LAMP will flash at the same time.

STAND–BY JACK

You can confirm the movement of Mechanism by using the Open Collector output. When a low signal is output from STAND–BY JACK, external lamp will light.
Output Corresponding with VTR mode as shown below.

OUTPUT	VTR MODE
OPEN COLLECTOR	REC/REC PAUSE STOP/EJECT
LOW	PLAY/STILL/CUE REVIEW/FF/REW

AUTO OFF JACK

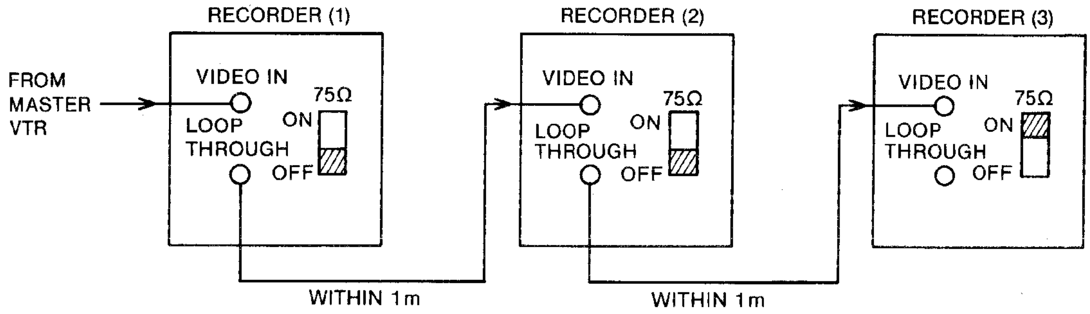
Output corresponding with VTR mode as shown below.

OUTPUT	VTR MODE
LOW	AUTO OFF MODE
OPEN COLLECTOR	OTHER MODE

CHANGER CONNECTOR

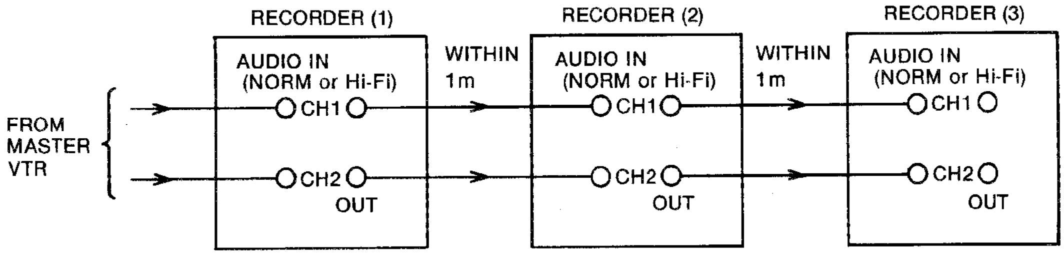
Pin. No.	CONTENTS	REMARK
1	+20V OUTPUT	+20±2V OUTPUT
2	+5V OUTPUT	+5±0.5V OUTPUT
3	GND	——
4	CASSETTE IN OUTPUT	CAS IN Ⓛ/OUT Ⓗ
5	CASSETTE OUT OUTPUT	CAS OUT Ⓛ/IN Ⓗ
6	AUTO OFF OUTPUT	AUTO OFF Ⓛ/OTHER Ⓗ
7	EJECT SW (1)	EJECT Ⓛ
8	TAPE RUN	FF, REW Ⓗ/REC PLAY (PULSE), OTHER Ⓛ
9	START OUTPUT	CHANGER START Ⓛ

VIDEO LOOP THROUGH CONNECTION


RECORDER (1)
RECORDER (2)
RECORDER (3)
FROM MASTER VTR
VIDEO IN
75Ω
LOOP THROUGH
ON
OFF
VIDEO IN
75Ω
LOOP THROUGH
ON
OFF
VIDEO IN
75Ω
LOOP THROUGH
ON
OFF
WITHIN 1m
WITHIN 1m

Note : (1) The 75 ohm TERMINATE SW of Recorder (FINAL) should be turned on as shown above.
(2) When only one Recorder is used, the 75 ohm TERMINATE SW should be turned on.
(3) You can connect maximum 3 units by Loop–through connector.

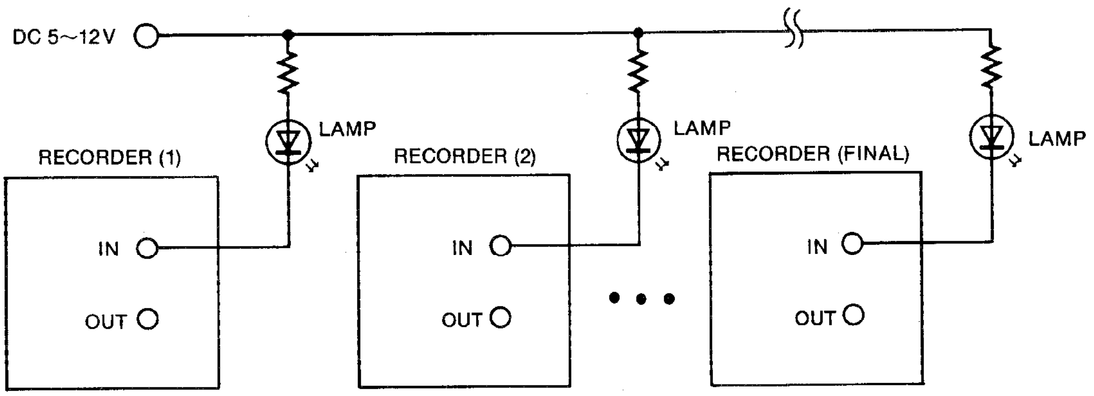
AUDIO LOOP THROUGH CONNECTION


RECORDER (1)
RECORDER (2)
RECORDER (3)
FROM MASTER VTR
AUDIO IN (NORM or Hi-Fi)
CH1
CH2
OUT
WITHIN 1m
AUDIO IN (NORM or Hi-Fi)
CH1
CH2
OUT
WITHIN 1m
AUDIO IN (NORM or Hi-Fi)
CH1
CH2
OUT

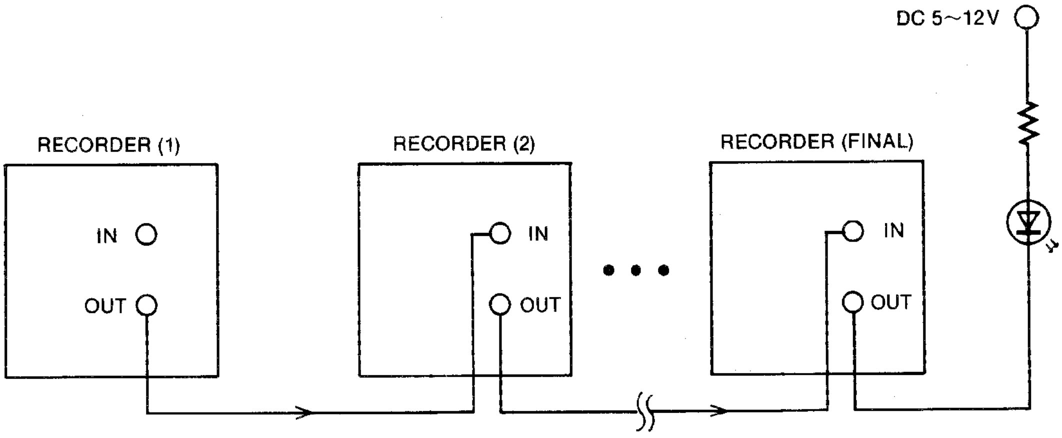
Note : (1) You can connect about 3 units by Loop-through.

AUTO OFF / STAND-BY CONNECTION

[In the case of checking the condition of each Units]


DC 5~12V
LAMP
LAMP
LAMP
RECORDER (1)
IN
OUT
RECORDER (2)
IN
OUT
RECORDER (FINAL)
IN
OUT

[Other case]


DC 5~12V
RECORDER (1)
IN
OUT
RECORDER (2)
IN
OUT
RECORDER (FINAL)
IN
OUT

Note:
INPUT JACK and OUTPUT JACK are connected inside the Unit.

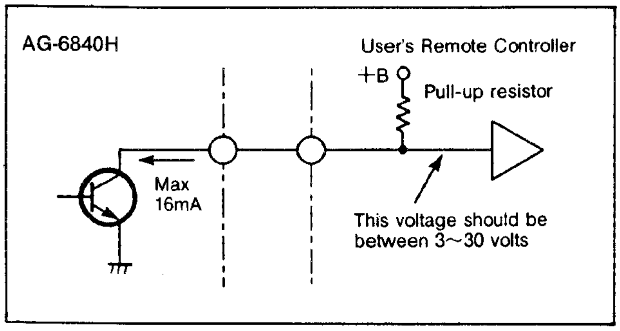
REMOTE CONNECTOR

Pin. No.	Contents	Pin. No.	Contents
[1]	REC SWITCH	⑱	REEL PULSE
[2]	PLAY SWITCH	19	NOT USED
[3]	FF SWITCH	20	NOT USED
[4]	REW SWITCH	[21]	EJECT SWITCH
[5]	STOP SWITCH	22	NOT USED
6	NOT USED	㉓	REC HOLD
[7]	PAUSE SWITCH	㉔	PLAY HOLD
⑧	CASSETTE IN	㉕	FF HOLD
⑨	GND	㉖	REW HOLD
10	NOT USED	㉗	STOP HOLD
11	NOT USED	28	NOT USED
⑫	GND	㉙	PAUSE HOLD
13	NOT USED	30	NOT USED
14	NOT USED	31	NOT USED
15	NOT USED	32	NOT USED
16	NOT USED	33	NOT USED
17	NOT USED	㉞	+12V (Max 100mA)

Note : (1) When the voltage pin 1 is LOW, the unit will go into the REC mode.
(2) ○ : Output pins
□ : Input pins

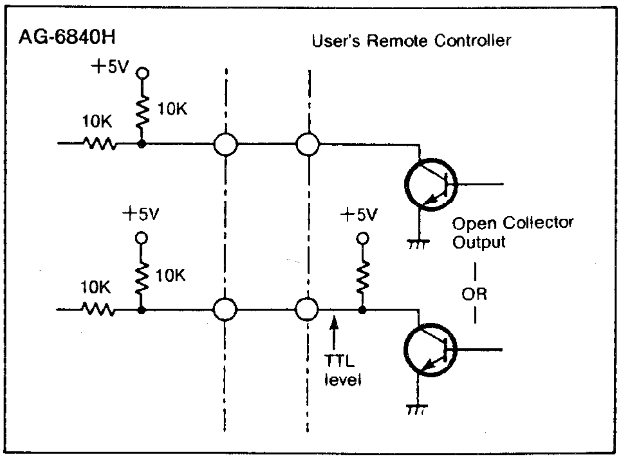
1. Output pins

The signal from the output pins are open collector circuit.
Therefor, user's remote controller circuits for the output pins should be designed as shown below. (except 18th pin)


AG-6840H
User's Remote Controller
+B
Pull-up resistor
Max 16mA
This voltage should be between 3~30 volts

2. Input pins

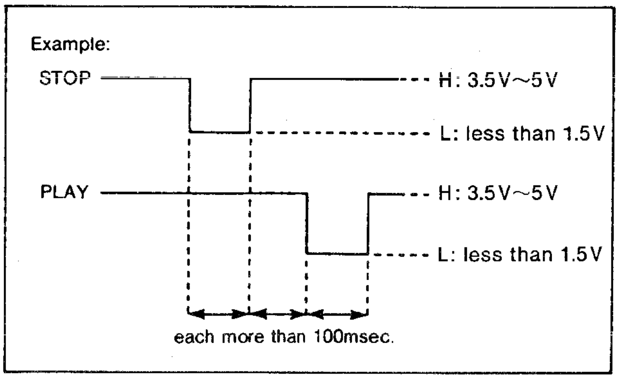
Input pins are internally pulled-up at about +5V. Therefore, user's remote controller circuits for the input pins should be designed open collector output circuit or Transistor Logic (TTL) level (L : Less than 1.5V, H : 3.5V~5V) as shown below.


AG-6840H
User's Remote Controller
+5V
10K
10K
+5V
10K
10K
+5V
Open Collector Output
OR
TTL level

3. Width of Switching Pulse

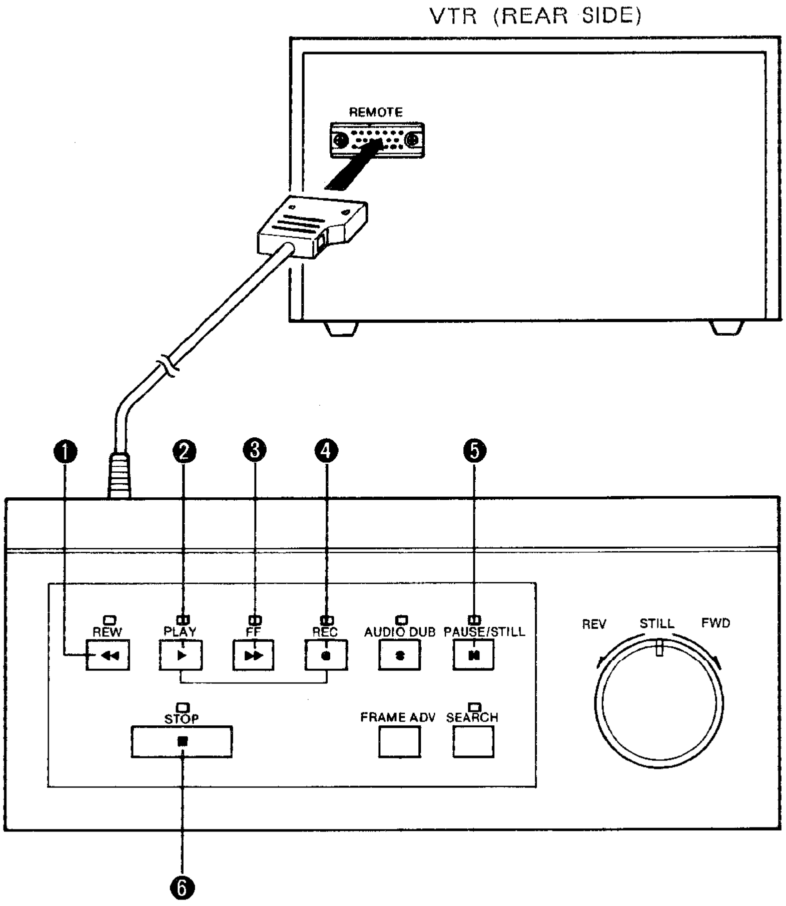
The following specified pulse should be applied to pins of the following table.
Note that pulses should not be overlapped each other.

Contents of signal	Pin No.
REC SWITCH	1
PLAY SWITCH	2
FF SWITCH	3
REW SWITCH	4
STOP SWITCH	5
PAUSE SWITCH	7
EJECT SWITCH	21


Example:
STOP
H: 3.5V~5V
L: less than 1.5V
PLAY
H: 3.5V~5V
L: less than 1.5V
each more than 100msec.

REMOTE CONTROLLER AG–A600 (OPTION)

When remote controller AG–A600 is connected to the unit, you can operate as shown below.

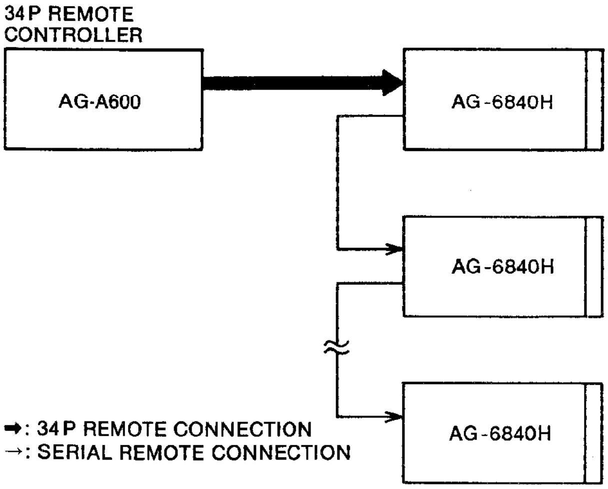

VTR (REAR SIDE)
REMOTE
1
2
3
4
5
REW
PLAY
FF
REC
AUDIO DUB
PAUSE/STILL
REV
STILL
FWD
STOP
FRAME ADV
SEARCH
6

(1) Rewind Button / Lamp
(2) Play Button / Lamp
(3) Fast Forward Button / Lamp
(4) Record Button / Lamp
(5) Pause / Still Button / Lamp
(6) Stop Button / Lamp

Note : AUDIO DUB, FLAME ADV Button,
SEARCH Dial (FWD/REV) do not work.

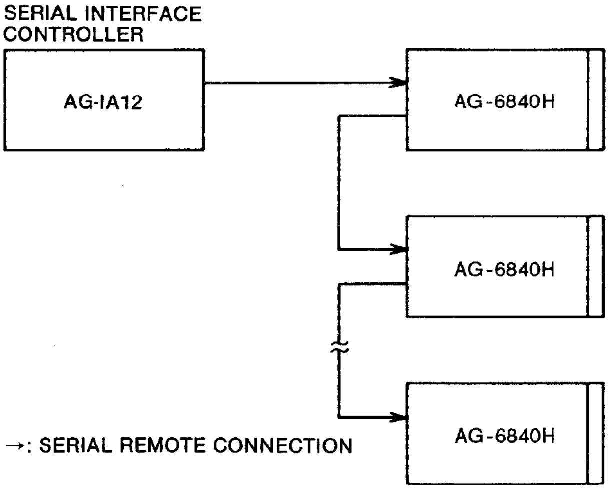
REMOTE CONNECTION

(1) 34P REMOTE CONNECTION


34P REMOTE
CONTROLLER
AG-A600
AG-6840H
AG-6840H
AG-6840H
➡: 34P REMOTE CONNECTION
→: SERIAL REMOTE CONNECTION

Note : The Internal SW (SW6506) should be set to "SO" side.
The command from 34 pin REMOTE Jack is converted to Serial data in system control microprocessor (IC6001). The serial data is output from SERIAL REMOTE OUT Jack.

(2) SERIAL REMOTE CONNECTION


SERIAL INTERFACE
CONTROLLER
AG-IA12
AG-6840H
AG-6840H
AG-6840H
→: SERIAL REMOTE CONNECTION

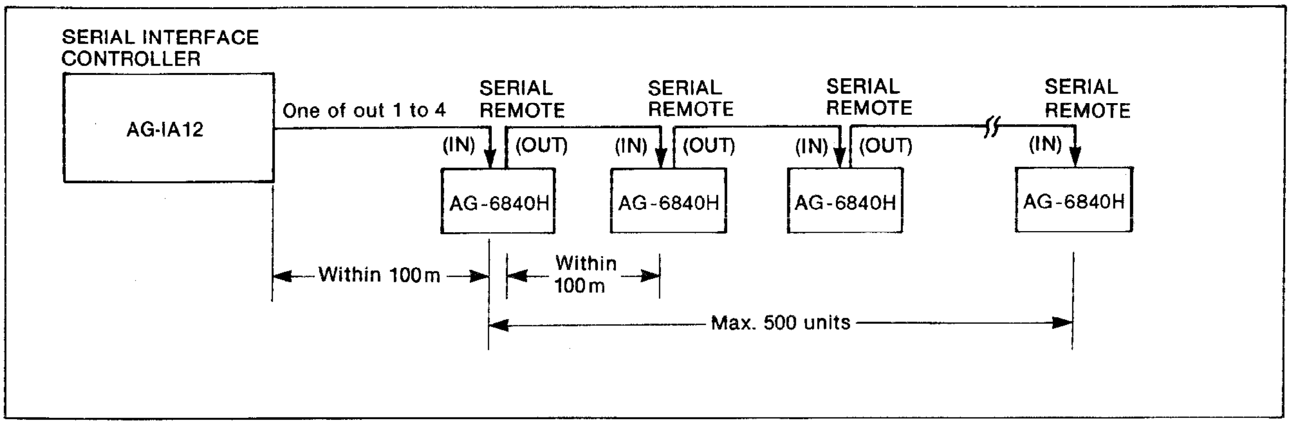
Note : The Internal SW (SW6506) should be set to "THROUGH" or "BUF ON" side.

(3) REMOTE CONTROLLER UNIT (AG-A11) CONNECTION

In the event of above (1) or (2) connection, when a AG-A11 is connected to AG-6840H, The unit which is connected AG-A11 is controlled by AG-A11 compulsorily.

CONNECTION METHOD

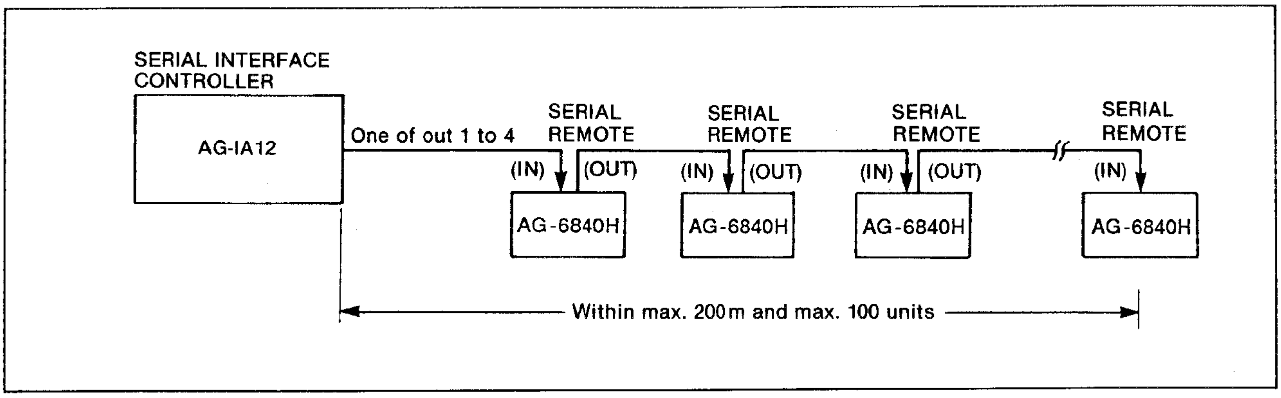
Example 1 (direct connection)


SERIAL INTERFACE
CONTROLLER
AG-IA12
One of out 1 to 4
SERIAL
REMOTE
(IN)
(OUT)
SERIAL
REMOTE
(IN)
(OUT)
SERIAL
REMOTE
(IN)
(OUT)
SERIAL
REMOTE
(IN)
AG-6840H
AG-6840H
AG-6840H
AG-6840H
Within 100m
Within 100m
Max. 500 units

Notes:

- * The length of the cable from the transmission part to the VTR should be within 100m. The length also should be kept within 100m from the second unit on. The max. number of units which can be connected is 500 units per output terminal of the transmission part.
- * When the internal SW (SW6506) is set to "BUF ON" side, serial code signal output is executed through the VTR with going through the Wave form shaping circuit.
- * When the power is OFF for the VTR, the serial code automatically is put out for through, so that there is no interruption. However, waveform shaping will not be executed.
- * Use a shield wire for the cable to be connected.

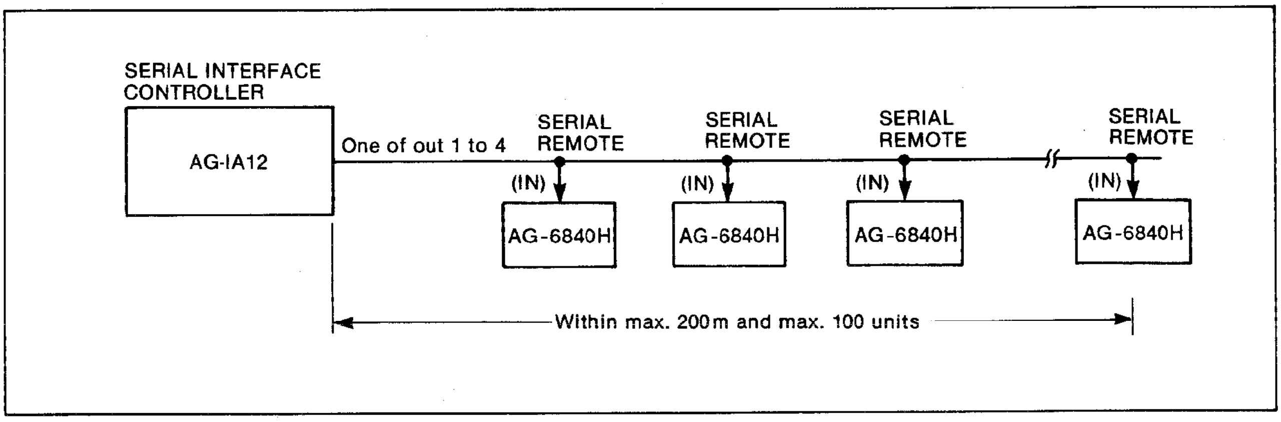
Example 2 (direct connection)


SERIAL INTERFACE CONTROLLER
AG-IA12
One of out 1 to 4
SERIAL REMOTE
(IN)
(OUT)
AG-6840H
SERIAL REMOTE
(IN)
(OUT)
AG-6840H
SERIAL REMOTE
(IN)
(OUT)
AG-6840H
SERIAL REMOTE
(IN)
AG-6840H
Within max. 200m and max. 100 units

Note:

* When the internal SW (SW6506) is set to "TROUGH" side, serial code signal output is executed through the VTR without going through the waveform shaping circuit. Accordingly, up to 100 units within max. 200m can be connected to one output terminal of the transmission part because of the waveform distortion.

Example 3 (direct connection)

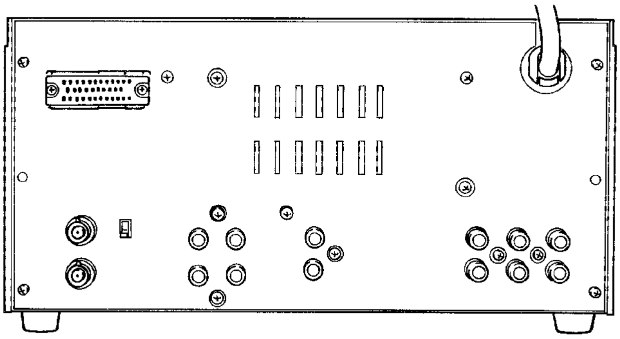

SERIAL INTERFACE CONTROLLER
AG-IA12
One of out 1 to 4
SERIAL REMOTE
(IN)
AG-6840H
SERIAL REMOTE
(IN)
AG-6840H
SERIAL REMOTE
(IN)
AG-6840H
SERIAL REMOTE
(IN)
AG-6840H
Within max. 200m and max. 100 units

Notes:

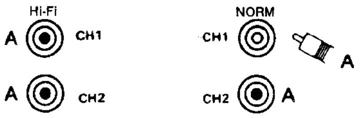
* When the internal SW (SW6506) is set to "TROUGH" side, serial code signal output is executed through the VTR without going through the waveform shaping circuit, up to 100 units within max. 200m can be connected to one output terminal of the transmission part.

* With this type of connection, the other VTRs (reception part) will not be influenced when there is trouble for one VTR (reception part).

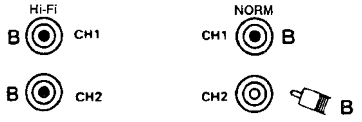
CONNECTING TO THE AUDIO INPUT JACKS



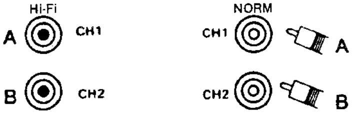
Depending on how connections are made to the Normal audio input jacks and the Hi-Fi Audio input jacks, the audio operation will change as shown below, so please keep this in mind in making these connections.


Hi-Fi
NORM
A
CH1
CH1
A
A
CH2
CH2
A

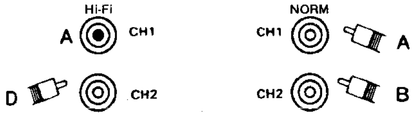
* Audio input A automatically inputs to the jacks with the solid circles in the middle.


Hi-Fi
NORM
B
CH1
CH1
B
B
CH2
CH2
B

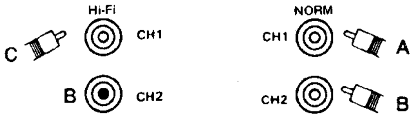
* Audio input B automatically inputs to the jack with a solid circle in the middle.


Hi-Fi
NORM
A
CH1
CH1
A
B
CH2
CH2
B

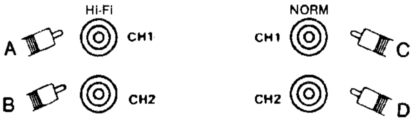
* A and B automatically input to the jacks with solid circles in the middle, as shown in the diagram.


Hi-Fi
NORM
A
CH1
CH1
A
D
CH2
CH2
B

* Audio input A automatically inputs to the jack with a solid circle in the middle.

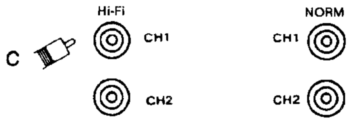

Hi-Fi
NORM
C
CH1
CH1
A
B
CH2
CH2
B

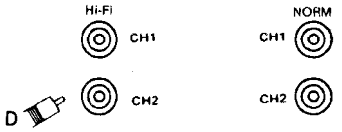
* Audio input B automatically inputs to the jacks with solid circles in the middle.

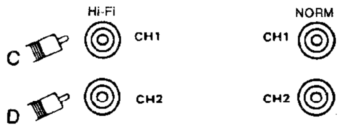

Hi-Fi
NORM
A
CH1
CH1
C
B
CH2
CH2
D

* Audio inputs A,B,C and D are direct inputs to the jacks as shown in the diagram.

<Caution>
As shown in the diagrams below, audio inputs connected to the Hi-Fi Audio input jacks are input only to those jacks.
There is no automatic connection to normal audio.

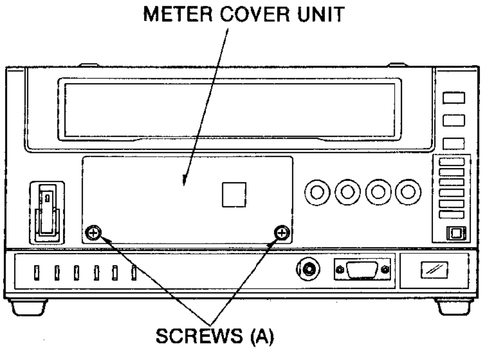

Hi-Fi
NORM
C
CH1
CH1
CH2
CH2


Hi-Fi
NORM
CH1
CH1
D
CH2
CH2


Hi-Fi
NORM
C
CH1
CH1
D
CH2
CH2

INSTALLING TO AUDIO METER (AG–AM10)

(1) Turn the POWER SW off.
Unscrew 2 screws (A). Remove Meter Cover Unit.


METER COVER UNIT
SCREWS (A)

(2) Disconnect a connector (P4802) on the Meter Cover Unit.
Connect above connector to P4801 on the AG–AM10.
Assemble the Meter Cover Unit by using 2 screws (A).

CIRCUIT DESCRIPTIONS

INTERNAL SWITCH AND INDICATOR

The AG–6840H provide some special functions for dubbing purpose.
The unit can select the following 10 functions by selecting the internal mode select switch on the mode select C.B.A. as shown in Figure 1–31.

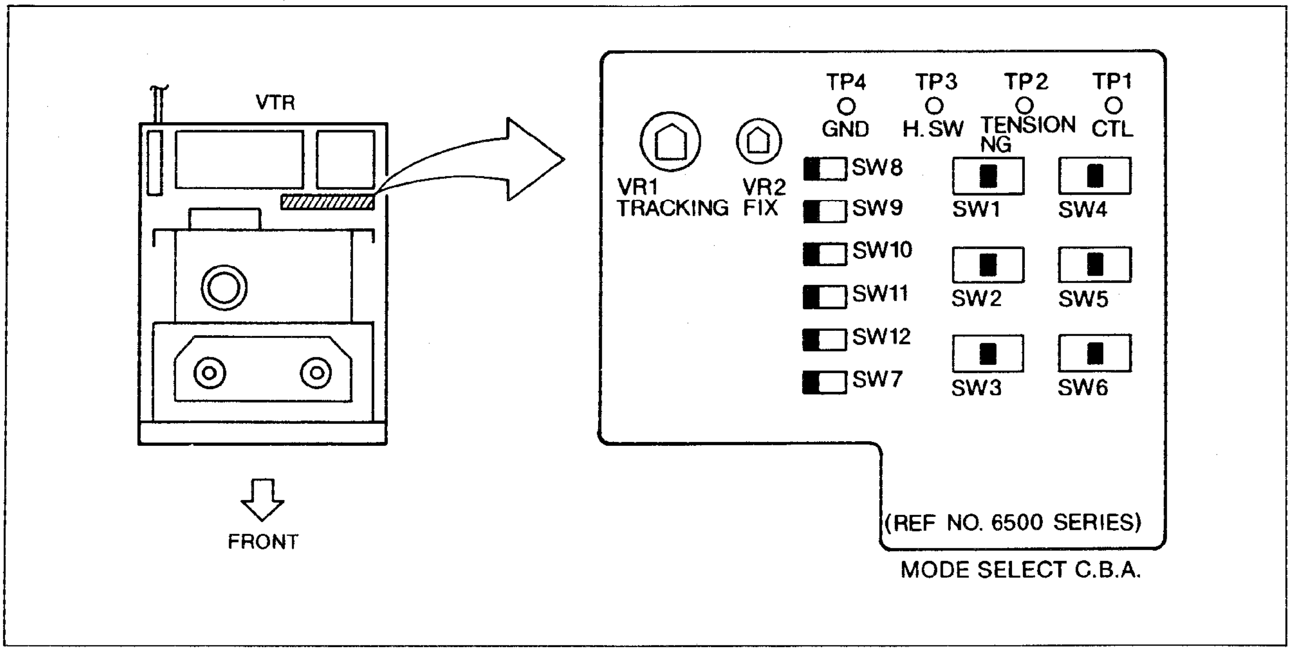

VTR
FRONT
TP4
GND
TP3
H.SW
TP2
TENSION NG
TP1
CTL
VR1 TRACKING
VR2 FIX
SW8
SW9
SW10
SW11
SW12
SW7
SW1
SW4
SW2
SW5
SW3
SW6
(REF NO. 6500 SERIES)
MODE SELECT C.B.A.

Figure 1

Figure and 3 shows the function of each switch.

REF. NO.	FUNCTION	DESCRIPTION	REMARK
SW6501	AGC	AGC circuit works when this sw is set to “ON”.	• When each SW is set to “REM”, each circuit is controlled by Serial Interface Controller (AG-IA12). • When each sw is set to “ON”, each lamp on the front panel lights.
SW6502	HiFi	HiFi REC circuit works when this sw is set to “ON”.	
SW6503	LIMITER	AUDIO LIMITER circuit works when this sw is set to “ON”.	
SW6504	DOLBY NR	DOLBY NR circuit works when this sw is set to “ON”.	
SW6505	SLP	NO FUNCTION	——
SW6507	S-VHS	NO FUNCTION	——

Figure 2

<table>
<tr><th>REF</th><th>FUNCTION</th><th></th><th>DESCRIPTION</th></tr>
<tr><td rowspan="4">SW6506</td><td rowspan="3">SO/BUF ON/ THROUGH</td><td>“SO” side</td><td>The Unit is controlled by the command of 34 pin Remote Control Connector, then the command is converted to Serial Signal, output from Serial Remote Control Out Jack.</td></tr>
<tr><td>“BUF ON” side</td><td>The Unit is controlled by Serial Signal of Serial Remote Control In Jack, the signal is wave-formed, then the signal is output from Serial Remote Control Out Jack.</td></tr>
<tr><td>“THROUGH” side</td><td>The Unit is controlled by Serial Signal of Serial Remote Control In Jack, the signal is output from Serial Remote Control Out Jack.</td></tr>
<tr><td colspan="3">This SW should be set before Power SW is turned on. The function is shown as below matrix.
<table>
<tr><th>FUNCTION</th><th>“34 pin” side</th><th>“Buf (Through)” side</th></tr>
<tr><td>34 pin CTL</td><td>○ (enable)</td><td>○ (enable)</td></tr>
<tr><td>Serial Remote CTL</td><td>× (unenable)</td><td>○ (enable)</td></tr>
<tr><td>Serial Remote Out</td><td>The command from 34 pin Remote Control Connector is output.</td><td>The command from Serial Remote In Jack is output.</td></tr>
</table></td></tr>
<tr><td>SW6508</td><td>SHORT FF</td><td colspan="2">If this SW is set to “ON”, the unit will short fast forward when the tape beginning is detected.</td></tr>
<tr><td>SW6509</td><td>CASSETTE IN AUTO REWIND</td><td colspan="2">If this SW is set to “ON”, the unit will rewind when cassette tape is inserted.</td></tr>
<tr><td>SW6510</td><td>CHANGER START</td><td colspan="2">If this SW is set to “ON”, the start signal for the CASSETTE AUTO CHANGER is supplied to the CHANGER when the eject signal is input to the 34 pin REMOTE CONTROL CONNECTOR or SERIAL REMOTE CONTROL CONNECTOR.</td></tr>
<tr><td>SW6511</td><td>REC DIRECT</td><td colspan="2">If this SW is set to “ON”, the unit will accept FF, REW, EJECT signal during Rec mode.</td></tr>
<tr><td rowspan="2">SW6512</td><td rowspan="2">REC AUTO OFF</td><td>“ON” side</td><td>• The unit will place in the stop mode and the following lamps perform as follows when the tape end is detected.
Tape Run Lamp .... OFF
Record Lamp.......................... OFF
Eject/Auto Off Lamp............ Flash
(After 30sec. from Tape End)
• The unit will place in the stop mode and the following lamps perform as follows when the video signal supply is stopped.
Tape Run Lamp .... OFF
Record Lamp.......................... Flash
Eject/Auto Off....................... Flash</td></tr>
<tr><td>“OFF” side</td><td>• The unit will place in the stop mode and the following lamps perform as follows when the tape end is detected.
Tape Run Lamp .... OFF
Record Lamp.......................... OFF
Eject/Auto Off Lamp............ OFF
• The following lamps perform as follows when the video signal supply is stopped, but the unit will keep in the recording mode.
Tape Run Lamp .... Flash
Record Lamp.......................... Flash
Eject/Auto Off Lamp............ OFF</td></tr>
</table>

Figure 3

DISASSEMBLY PROCEDURES

1. DISASSEMBLY FLOW CHART

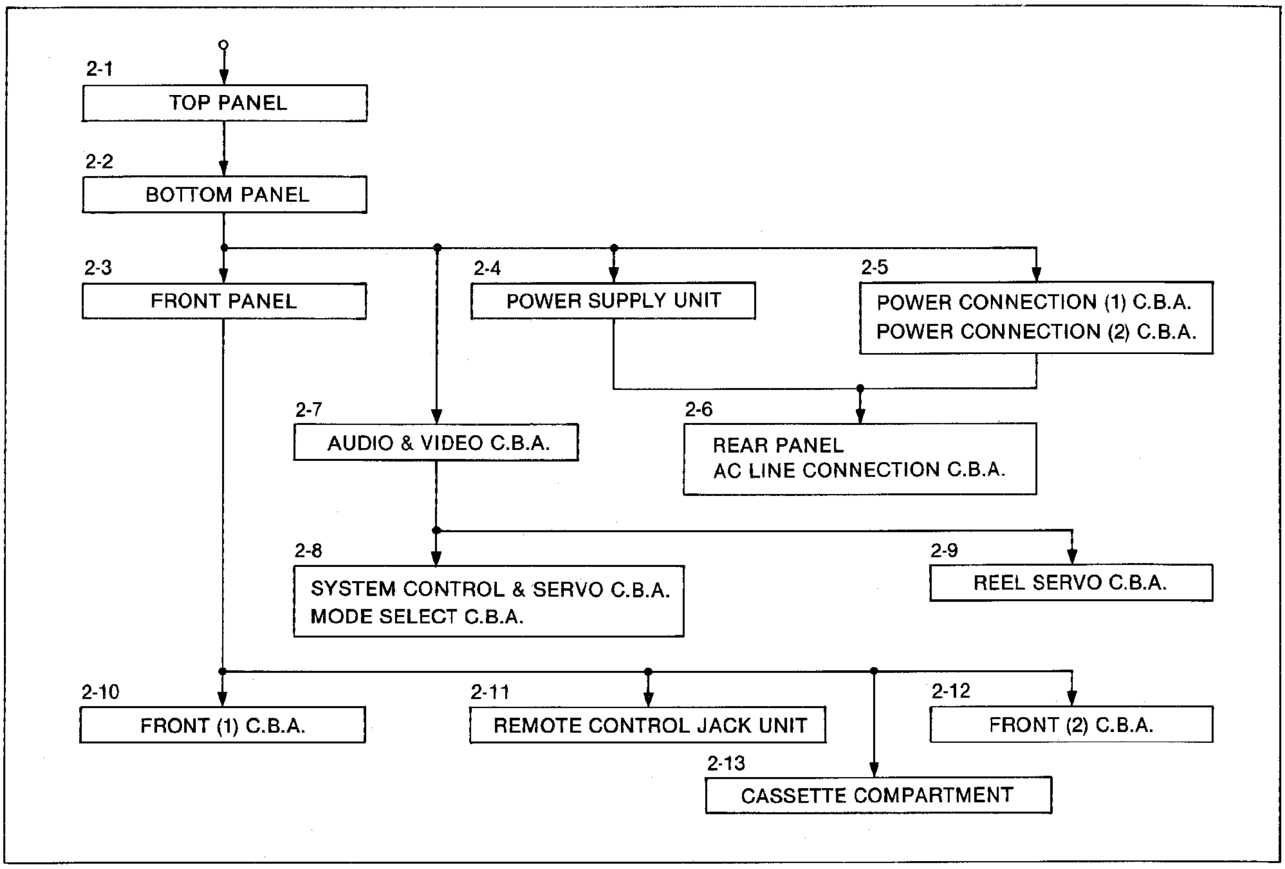

2-1
TOP PANEL
2-2
BOTTOM PANEL
2-3
FRONT PANEL
2-4
POWER SUPPLY UNIT
2-5
POWER CONNECTION (1) C.B.A.
POWER CONNECTION (2) C.B.A.
2-7
AUDIO & VIDEO C.B.A.
2-6
REAR PANEL
AC LINE CONNECTION C.B.A.
2-8
SYSTEM CONTROL & SERVO C.B.A.
MODE SELECT C.B.A.
2-9
REEL SERVO C.B.A.
2-10
FRONT (1) C.B.A.
2-11
REMOTE CONTROL JACK UNIT
2-12
FRONT (2) C.B.A.
2-13
CASSETTE COMPARTMENT

Figure D1

The above flow chart describes the order of steps for removing the cabinet parts and certain printed circuit boards in order to gain access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

2. DETAILED DISASSEMBLY METHOD

2–1. Removal of the Top Panel

1. Unscrew 2 screws (A) on the Top Panel.
2. Carefully lift the rear of the case and slide it off the back of the unit.

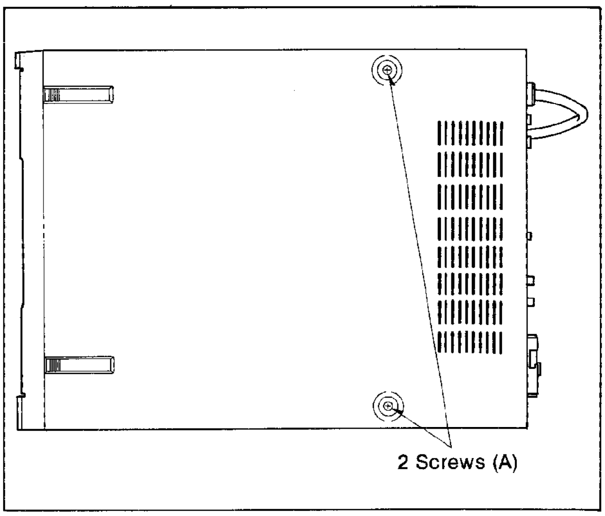


Figure D2

2–2. Removal of the Bottom Plate

1. Unscrew 8 screws (B) and lift off the Bottom Plate.

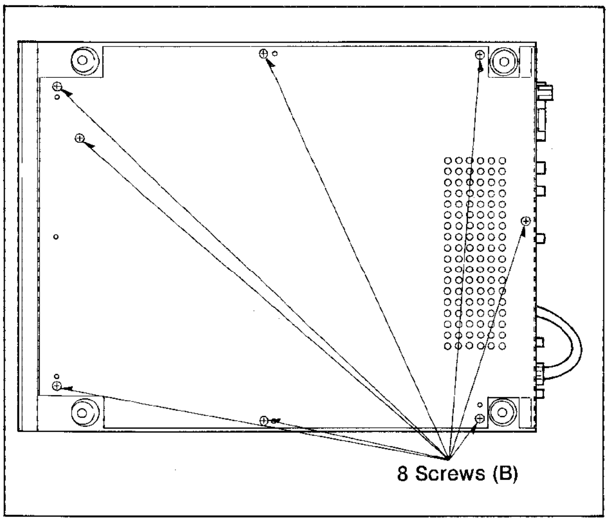


Figure D3

2–3. Removal of the Front Panel

1. Unscrew 2 screws (C) and open the Meter Cover.
2. Disconnect a connector P4802 on the Modular Jack C.B.A.
3. Unscrew 2 screws (D) and unlock 4 locking portions (E).
4. Turn the Front Panel toward the front of the deck to remove.

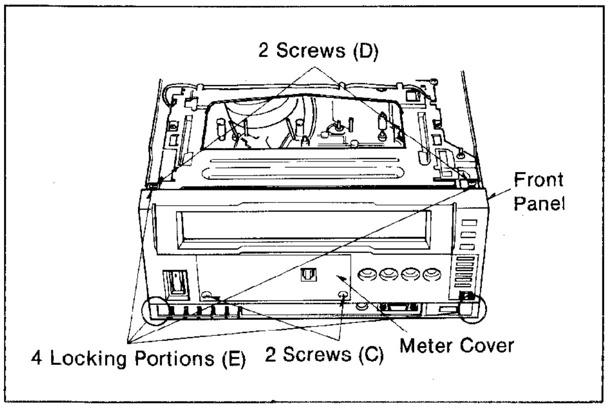

2 Screws (D)
Front Panel
4 Locking Portions (E)
2 Screws (C)
Meter Cover

Figure D4

2–4. Removal of the Power Supply Unit

1. Unscrew 3 screws (F) and lift up the unit.
2. Then disconnect 2 connectors and Power Connector between Power Supply unit and AC Line Connection C.B.A. P1001 on the SW Power (1) C.B.A.
3. Pull out the Power Supply Unit.

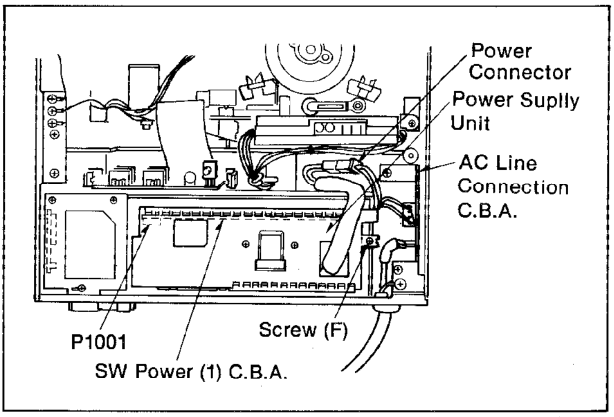

Power Connector
Power Suplly Unit
AC Line Connection C.B.A.
P1001
Screw (F)
SW Power (1) C.B.A.

Figure D5

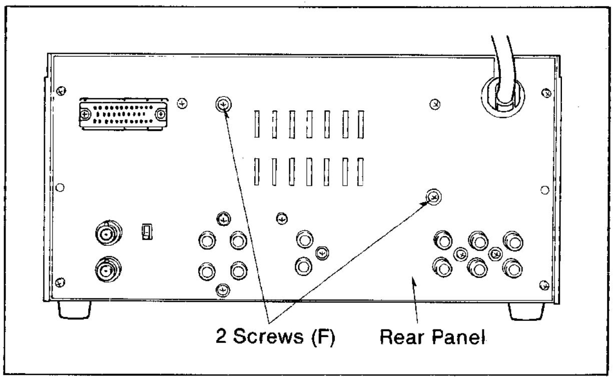

2 Screws (F)
Rear Panel

Figure D6

2–5. Removal of the Power Connection (1) C.B.A. and Power Connection (2) C.B.A.

1. Unscrew 3 screws (G) and disconnect 2 connectors P1201 and P1202 on the Power Connection (1) C.B.A.
2. Pull out the Power Connection (1) C.B.A. and Power Connection (2) C.B.A.

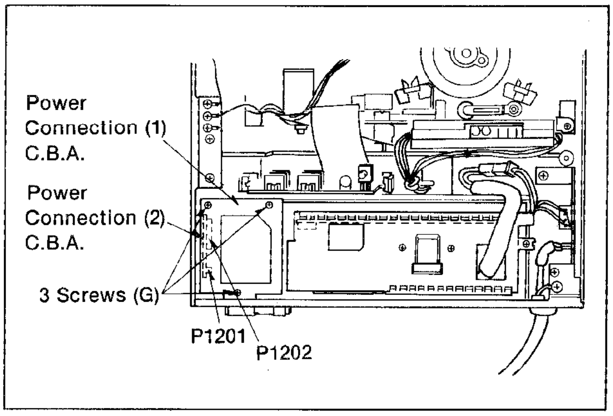

Power Connection (1) C.B.A.
Power Connection (2) C.B.A.
3 Screws (G)
P1201
P1202

Figure D7

2–6. Removal of Rear Panel and AC Line Connection C.B.A.

1. Unscrew 3 screws (H).
2. Unscrew 2 screws (J) on the bottom side and unscrew 4 screws (K) on the rear side.

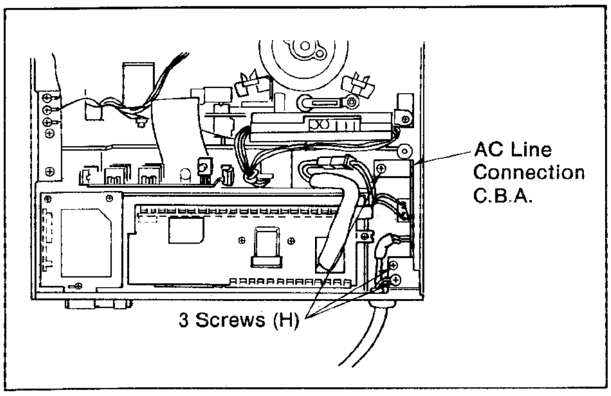

AC Line Connection C.B.A.
3 Screws (H)

Figure D8

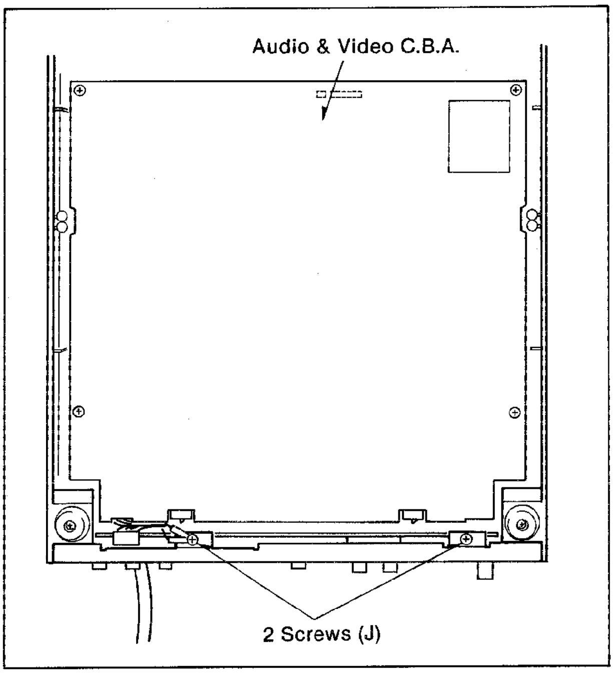

Audio & Video C.B.A.
2 Screws (J)

Figure D9

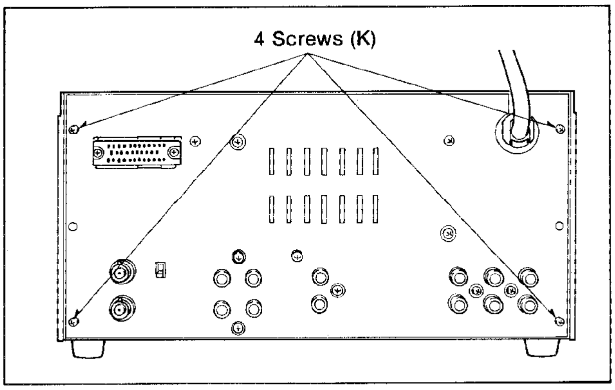


Figure D10

2–7. Opening of the Audio & Video C.B.A.

1. Unscrew 4 screws (L) and disconnect 2 connectors P4302 and P4304 on the Audio & Video C.B.A.

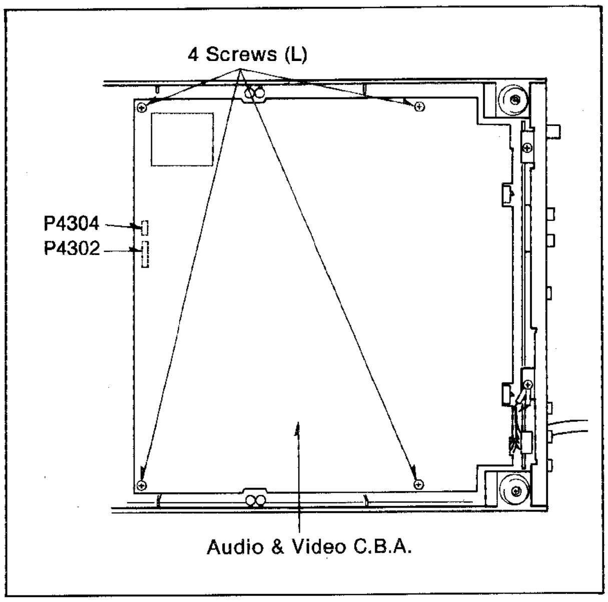

4 Screws (L)
P4304
P4302
Audio & Video C.B.A.

Figure D11

2–8. Opening of the System Control & Servo C.B.A. and Mode Select C.B.A.

1. Unscrew 6 screws (M) and remove 2 rivets (N).
2. Remove the shield plate and disconnect a connector P6013 on the System Control & Servo C.B.A.
3. Unlock 2 locking portions (O) and pull up the Mode Select C.B.A. to top side.

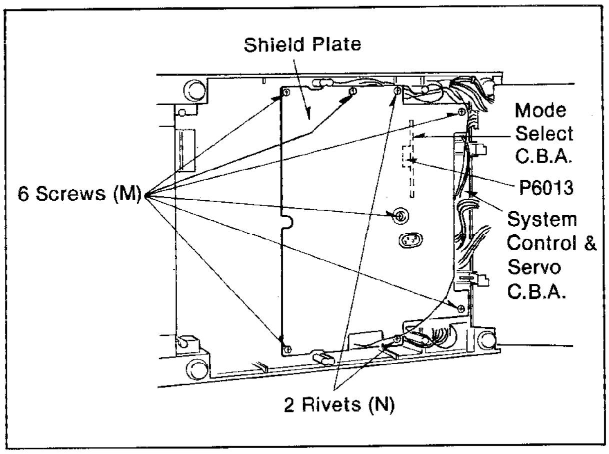

Shield Plate
Mode Select C.B.A.
P6013
6 Screws (M)
System Control & Servo C.B.A.
2 Rivets (N)

Figure D12

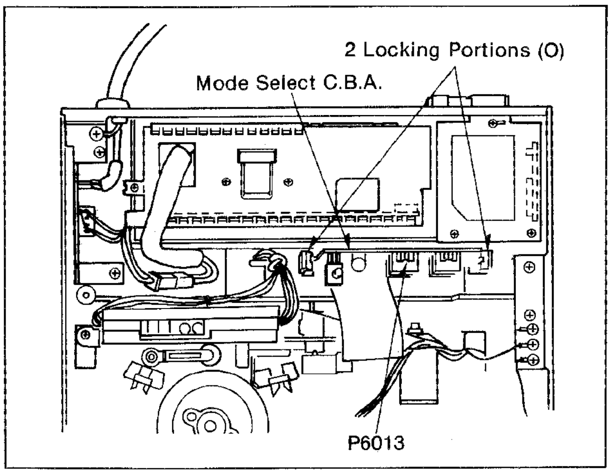

2 Locking Portions (O)
Mode Select C.B.A.
P6013

Figure D13

2–9. Removal of the Reel Servo C.B.A.

1. Unscrew 4 screws (P) and remove the Reel Servo C.B.A.

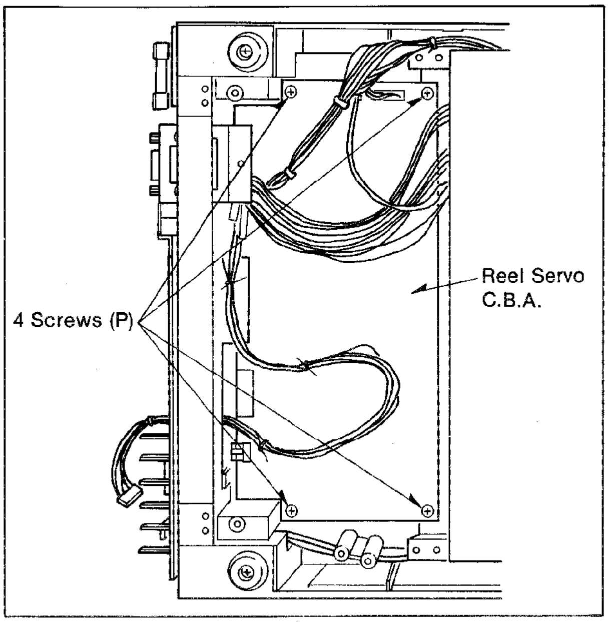

Reel Servo C.B.A.
4 Screws (P)

Figure D14

2–10. Removal of the Front (1) C.B.A.

1. Unscrew 3 screws (Q) and remove the Front (1) C.B.A.

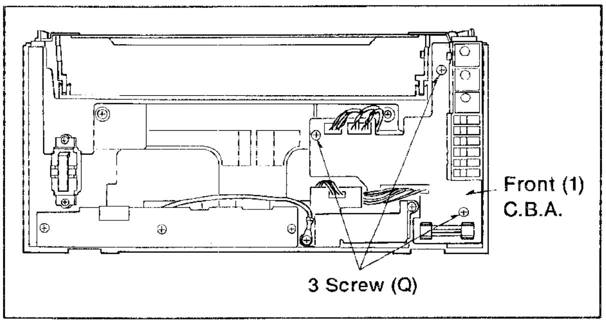

Front (1) C.B.A.
3 Screw (Q)

Figure D15

2–11. Removal of the Remote Control Jack Unit

1. Unscrew 2 screws (R) and remove the Remote Control Jack Unit.

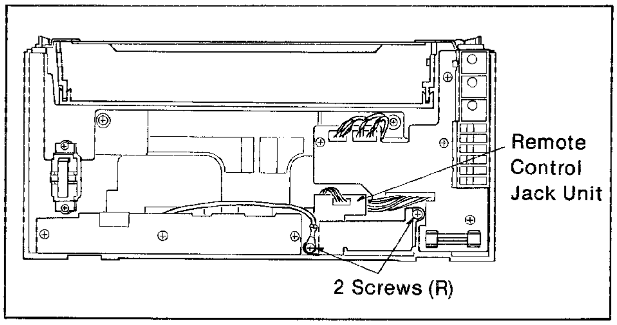

Remote Control Jack Unit
2 Screws (R)

Figure D16

2–12. Removal of the Front (2) C.B.A.

1. Unscrew 3 screws (S) and remove the Front (2) C.B.A.

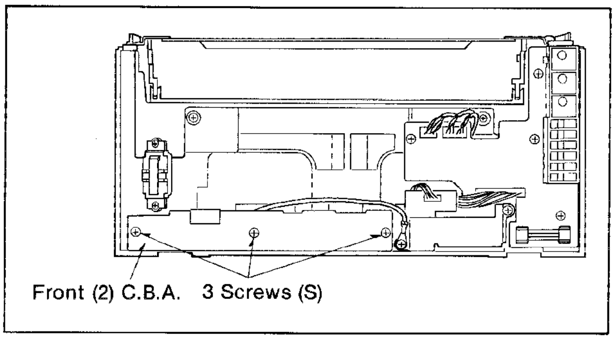

Front (2) C.B.A.
3 Screws (S)

Figure D17

2–13. Removal of the Cassette Compartment

1. Unscrew 4 screws (T) and disconnect 2 wires from P1508 on the right side of the cassette compartment.
2. Remove the top plate.

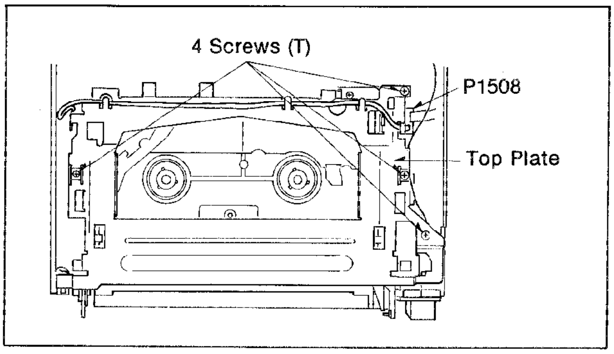

4 Screws (T)
P1508
Top Plate

Figure D18

3. Remove a cassette holder unit.

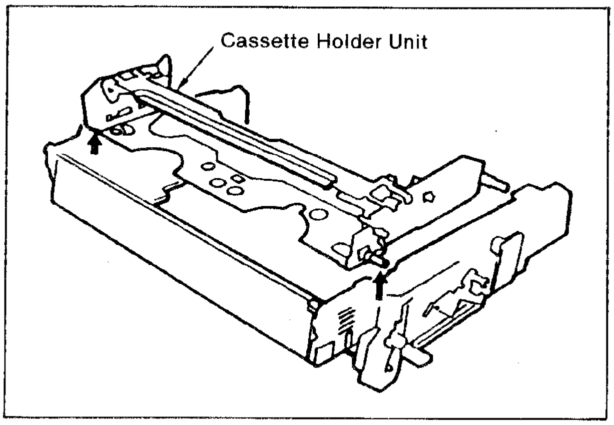

Cassette Holder Unit

Figure D19

4. Unscrew 4 screws (U) and remove the Cassette Compartment Unit.

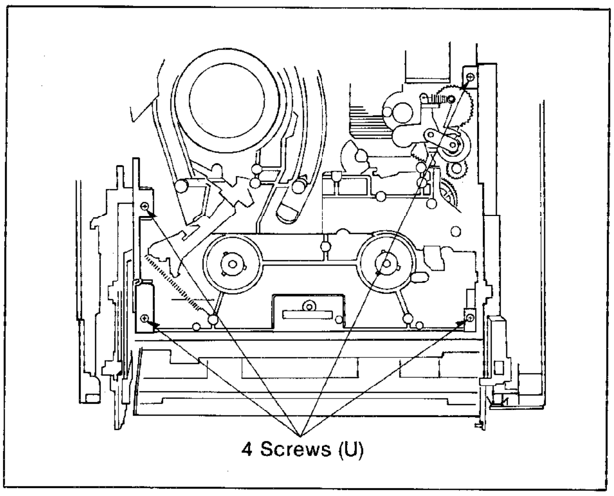


Figure D20

Note:
When installing the Front Loading Unit, refer to Mechanical Adjustment Procedures.

REGULAR MAINTENANCE

1. PARTS LOCATION

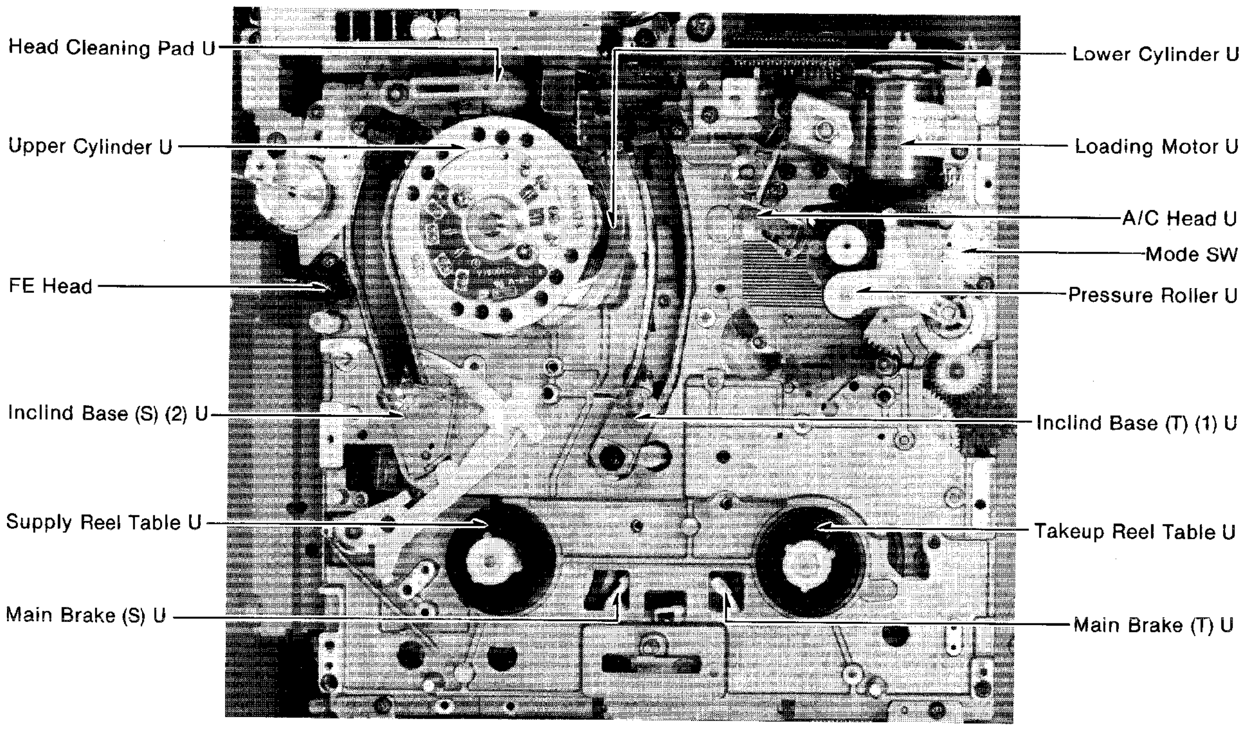

Head Cleaning Pad U
Upper Cylinder U
FE Head
Inclind Base (S) (2) U
Supply Reel Table U
Main Brake (S) U
Lower Cylinder U
Loading Motor U
A/C Head U
Mode SW
Pressure Roller U
Inclind Base (T) (1) U
Takeup Reel Table U
Main Brake (T) U

Figure R1 Top View

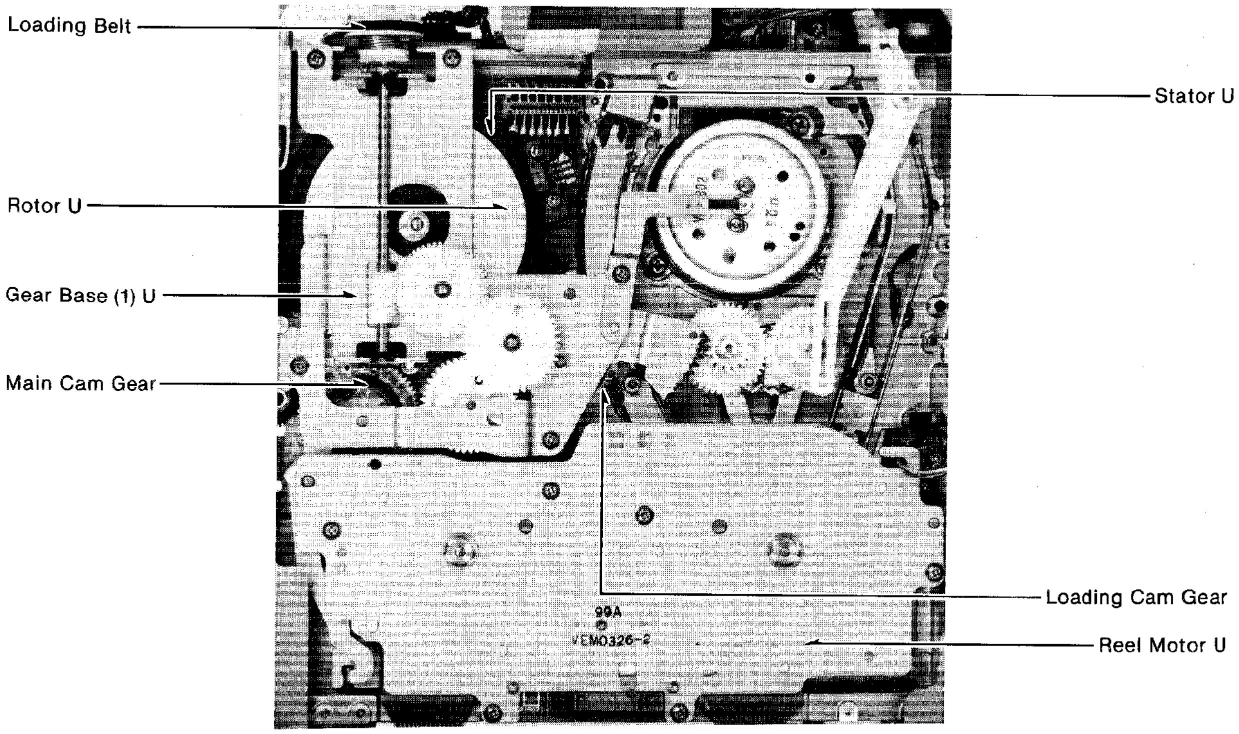

Loading Belt
Rotor U
Gear Base (1) U
Main Cam Gear
Stator U
Loading Cam Gear
Reel Motor U
99A
VEM0326-2

Figure R2 Bottom View

REGULAR MAINTENANCE

The purpose of periodic maintenance is to preserve the functioning of this machine throughout it's useful life. The user or service dealer should perform these maintenance regularly to ensure that maximum utility is obtained from the machine.

The VCR is a complicated piece of equipment. It contains many belts, rollers, heads etc., which become worn, and deteriorate as time goes by, causing trouble. Dust and dirt will also impede the proper functioning of the machine. In light of this, it is very important that overall maintenance be done according to the maintenance chart to maintain the functions of the VCR, and to avoid accidental problems. This maintenance should also be performed after any repairs are done on the equipment.

The VCR used for business applications requires particular attention for several reasons. The installation conditions and applications are not always the best. long use times, to poor environmental conditions may adversely affect the life–span and performance of the machine. Regular maintenance assures that the purchaser obtains the maximum value for his expenditure. Accordingly, the necessity of regular maintenance should be fully explained at the time of sale, as well as during after–sale repairs.
Please note that the recommended maintenance schedule depends on temperature and humidity.

2. MAINTENANCE CHART

The following periodic maintenance is required to prolong the life of the machine.

Ref. No. IN P/L	Parts Name	Hour										Ref. No. IN P/L	Parts Name	Hour									
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000			500	1000	1500	2000	2500	3000	3500	4000	4500	5000
—	Tape Transporters	●	●	●	●	●	●	●	●	●	●	11 (1)	Loading Motor U								◎		
33 (1)	A/C Head U	●	●	●	●	●	●	●	◎	●	●	55 (1)	Inclind Base (S) (2) U								■		
20 (1)	FE Head	●	●	●	●	●	●	●	◎	●	●	61 (1)	Inclind Base (T) (1) U								■		
14 (1)	Upper Cylinder U	●	◎	●	◎	●	◎	●	◎	●	◎	50 (1)	Head Cleaning Pad U		◎		◎		◎		◎		◎
12 (1)	Lower Cylinder U	●	●	●	●	●	●	●	●	●	◎※1	22 (1)	Mode SW								◎		
96 (2)	Capstan Rotor U (Shaft)	●	●	●	●	●	●	●	●	●	●	82 (2)	Reel Motor U								◎		
37 (1)	Pressure Roller U	●	●	●	◎	●	●	●	◎	●	●	110 (2)	Loading Cam Gear								■		
93 (2)	Main Brake (S) U				◎				◎			104 (2)	Main Cam Gear								■		
94 (2)	Main Brake (T) U				◎				◎			80 (2)	Worm Shaft								■		
81 (2)	Loading Belt				◎				◎			83 (2)	Worm Wheel								■		
E44	HOUR METER										◎												

※ 1: Regarding AG-6840H the replacement period will be longer than 5000 Hour.

*** NOTE:**

Symbol	Maintenance	Requirement	Remark
●	Cleaning	Freon TF, Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with or Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	———	———
■	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.

3. MAINTENANCE PROCEDURES

3-1. HOW TO EJECT MANUALLY

If the electrical circuit is defective and the action of unloading and front unloading don't work properly, it is possible to eject manually as follows.

1. Take out the Main AC.
2. Release the direction as shown in Figure R3.
3. Rotate the Wormshaft to clockwise until cassette is ejected.

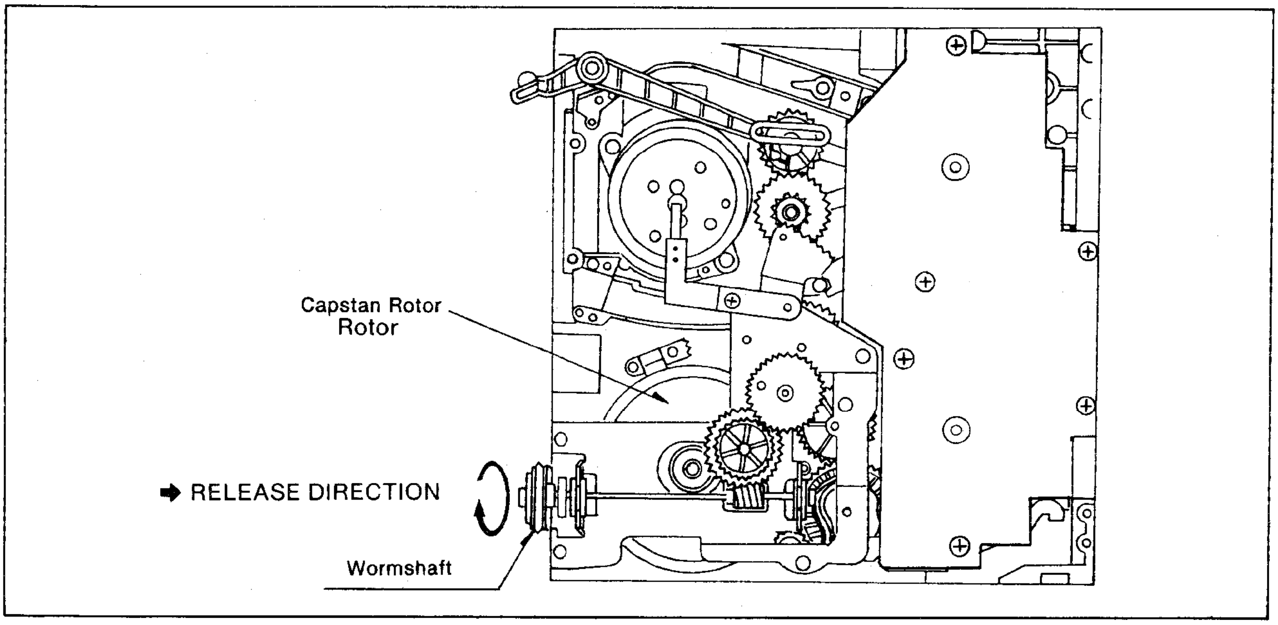

Capstan Rotor
Rotor
➡ RELEASE DIRECTION
Wormshaft

Figure R3

3-2. CYLINDER MAINTENANCE PROCEDURES

A. Procedures for Cleaning of the Cylinder Unit

1. Position the video head to permit access for cleaning and hold the upper cylinder to keep it from turning while cleaning.
2. Gently rub the video head in direction of tape travel with Head Cleaning Stick moistened with Cleaning Liquid.
3. Repeat for the other video heads. (Figure R4)

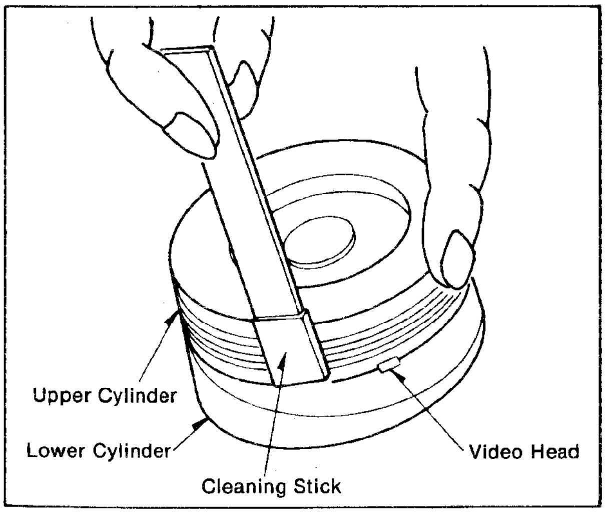

Upper Cylinder
Lower Cylinder
Cleaning Stick
Video Head

Figure R4

*Notes:
1. Do not rub vertically.
2. Do not apply any pressure to heads.

B. Replacement of the Upper Cylinder Unit

1. First remove two screws as shown in Figure R5. Then unsolder 8 (Figure R6) of the soldered portions indicated by arrows on the Upper Cylinder, and finally remove the Upper Cylinder.

*Note: Soldered portion can be easily removed by using solder sucking wire, etc.

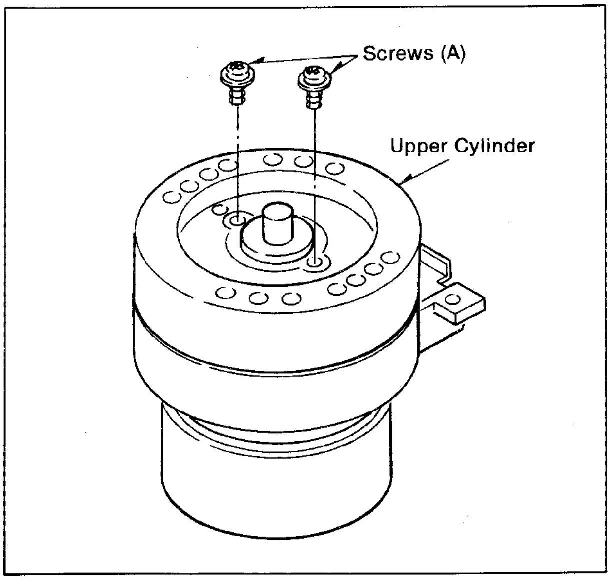

Screws (A)
Upper Cylinder

Figure R5

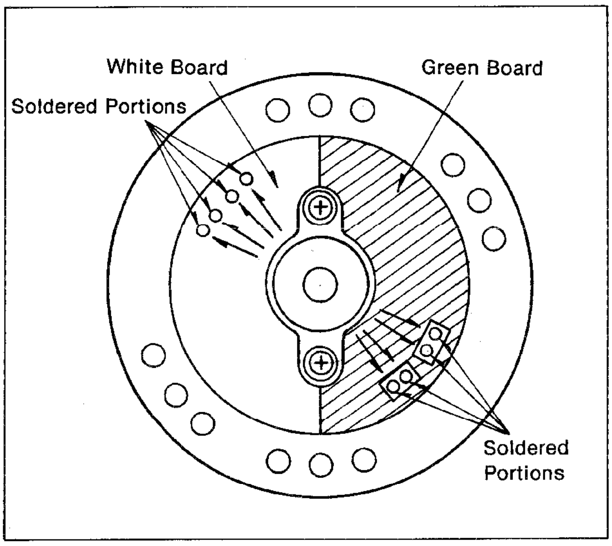

White Board
Green Board
Soldered Portions
Soldered Portions

Figure R6

2. The Upper Cylinder unit can be reinstalled by reversing the removal procedure.
However, when Upper Cylinder is installed, be extremely carefully so that white portion of P.C. board of Upper Cylinder correctly matches the white portion of bottom cylinder.

C. Replacement of the Lower Cylinder Unit

1. Unscrew 2 screws (B) and remove the Head Amp C.B.A. and then disconnect the connector. (Figure R7)

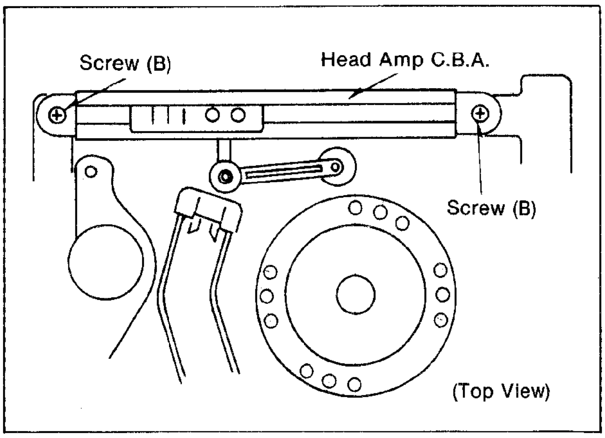

Screw (B)
Head Amp C.B.A.
Screw (B)
(Top View)

Figure R7

2. Remove the Cleaning Rod from bottom side.
3. Disconnect a connector (D).
4. Unscrew 3 screws (C). Since there is very little clearance between DD Cylinder (Lower Cylinder) Unit and Chassis, remove the Cylinder gently and carefully. (Figure R8).

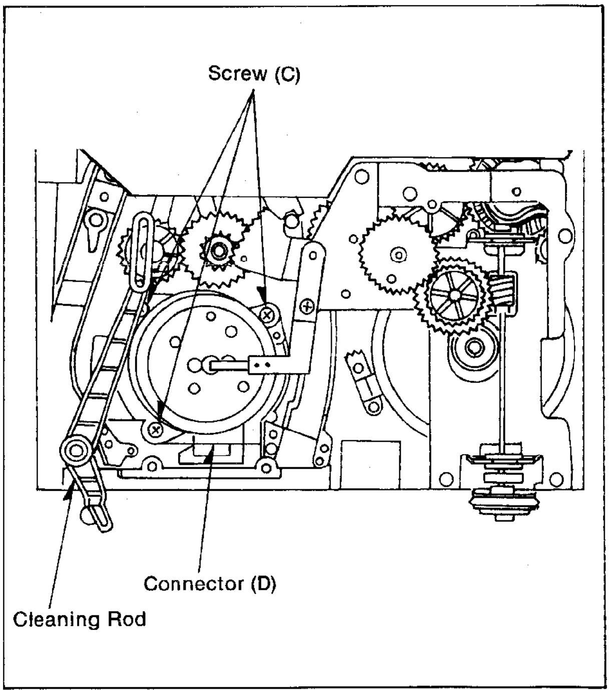

Screw (C)
Connector (D)
Cleaning Rod

Figure R8

5. Reinstall the new DD Cylinder (Lower Cylinder) Unit in the chassis, tighten the 3 screws (C). Then connect a connectors and reinstall the Cleaning Rod.
6. Re–install the Head Amp C.B.A.

D. Adjustment After Re–Installing

Figure R9 shows the order of steps for adjusting the mechanical and electrical.

These adjustments should be performed after completion of reinstalling the Upper Cylinder or Lower Cylinder Unit.

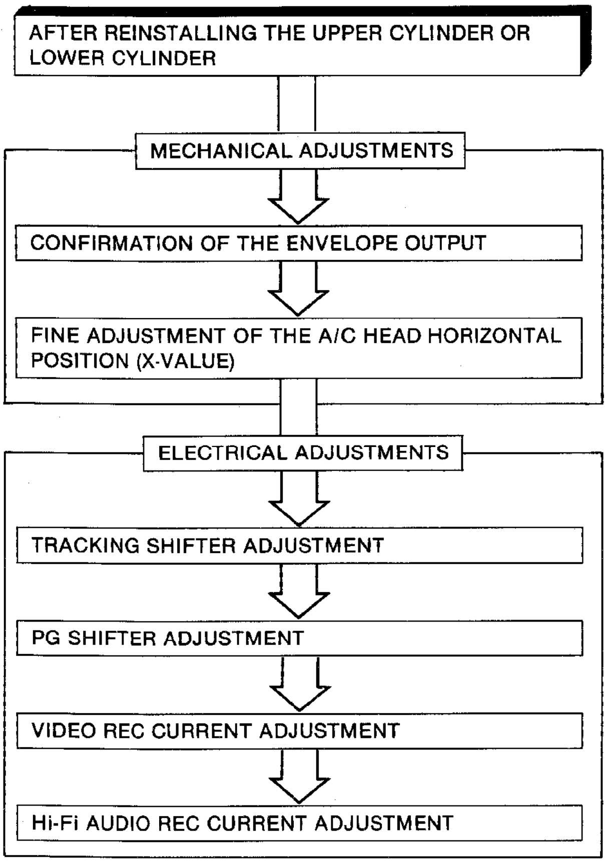

AFTER REINSTALLING THE UPPER CYLINDER OR LOWER CYLINDER
MECHANICAL ADJUSTMENTS
CONFIRMATION OF THE ENVELOPE OUTPUT
FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
ELECTRICAL ADJUSTMENTS
TRACKING SHIFTER ADJUSTMENT
PG SHIFTER ADJUSTMENT
VIDEO REC CURRENT ADJUSTMENT
Hi-Fi AUDIO REC CURRENT ADJUSTMENT

Figure R9

3–3. A/C HEAD MAINTENANCE PROCEDURES

A. Replacement of the A/C Head (1) Unit

1. Disconnect a connector (H). (Figure R10)
2. Unscrew 3 screws (E)(F)(G) with a spring and then remove the A/C Head (1) Unit (FigureR10).

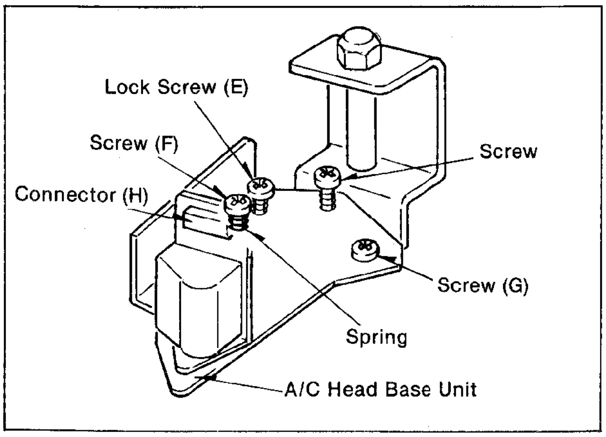

Lock Screw (E)
Screw (F)
Connector (H)
Screw
Screw (G)
Spring
A/C Head Base Unit

Figure R10

3. The A/C Head (1) Unit can be reinstalled by reversing the removal procedure.

B. Adjustment After Re–installing

Figure R10 shows the order of steps for adjusting the mechanical and electrical.
These adjustments should be performed after completion of reinstalling the A/C Head (1) Unit.

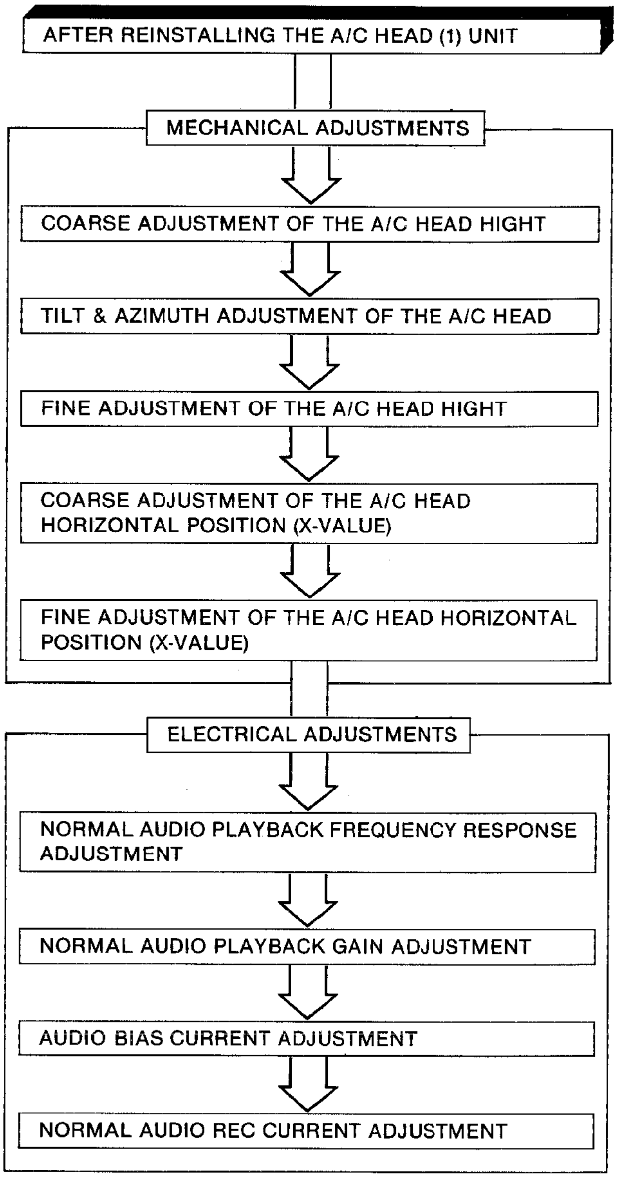

AFTER REINSTALLING THE A/C HEAD (1) UNIT
MECHANICAL ADJUSTMENTS
COARSE ADJUSTMENT OF THE A/C HEAD HIGHT
TILT & AZIMUTH ADJUSTMENT OF THE A/C HEAD
FINE ADJUSTMENT OF THE A/C HEAD HIGHT
COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
ELECTRICAL ADJUSTMENTS
NORMAL AUDIO PLAYBACK FREQUENCY RESPONSE ADJUSTMENT
NORMAL AUDIO PLAYBACK GAIN ADJUSTMENT
AUDIO BIAS CURRENT ADJUSTMENT
NORMAL AUDIO REC CURRENT ADJUSTMENT

Figure R11

3–4. FULL ERASE HEAD MAINTENANCE PROCEDURES

A. Replacement of the Full Erase Head

1. Disconnect a connector (J).
2. Unscrew a screw (K) and remove the Full Erase Head.

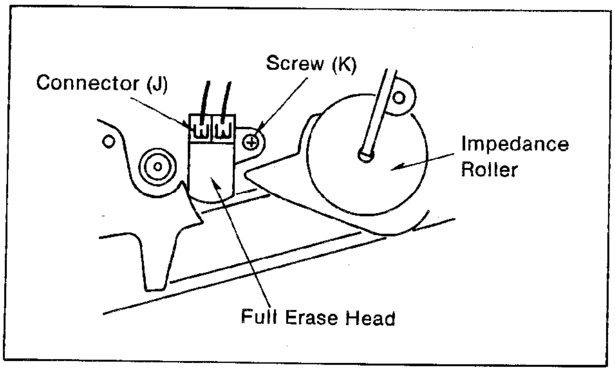

Connector (J)
Screw (K)
Impedance Roller
Full Erase Head

Figure R12

3. The new Full Erase Head can be reinstalled by reversing the removal procedure.

3–5. PRESSURE ROLLER MAINTENANCE PROCEDURES

A. Replacement of the Pressure Roller Unit

1. Place the deck in STOP or EJECT mode.
2. Remove the Pinch Can Cap.
3. Remove the Pressure Roller Unit.

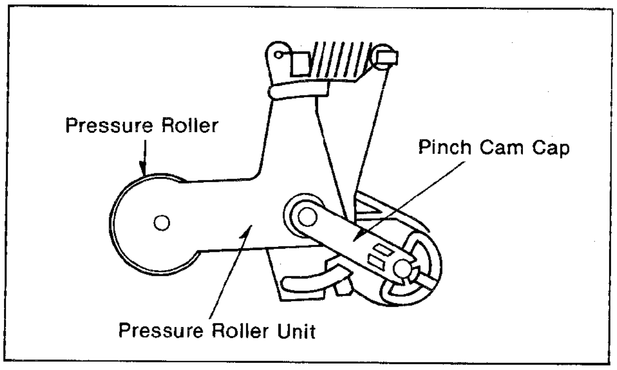

Pressure Roller
Pinch Cam Cap
Pressure Roller Unit

Figure R13

4. The new Pressure Roller Unit can be re-installed by reversing the removal procedure.

3–6. REEL MOTOR UNIT MAINTENANCE PROCEDURES

A. Replacement of the Reel Unit

1. Remove 6 screws (L) and carefully lift the DD Reel Unit.
2. Disconnect a connector.

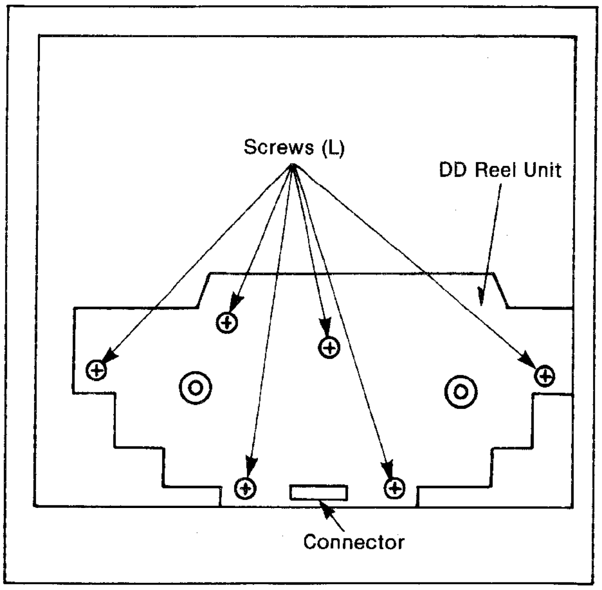

Screws (L)
DD Reel Unit
Connector

Figure R14

3. The Reel Motor Unit can be re-installed by reversing the removal procedure.

*Note: When assembling the DD Reel Motor Unit, slide the Main Rod to far left side by rotating a Center Gear.

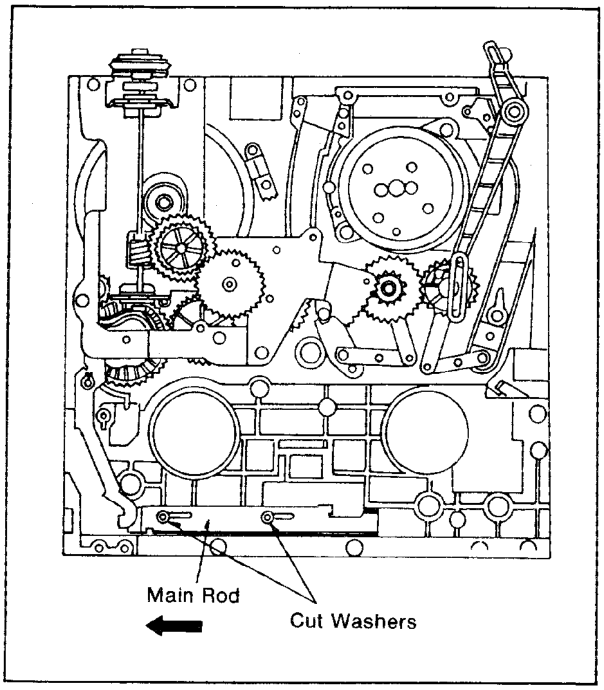

Main Rod
Cut Washers

Figure R15

3–7. MAIN BRAKE (S),(T) UNIT MAINTENANCE PROCEDURES

A. Replacement of the Main Brake (S),(T) Unit

1. Remove the Reel Unit. (Refer to Reel Motor Maintenance Procedures.)
2. Remove a Retaining Ring.
3. Remove the Main Brake (S),(T) with a spring.

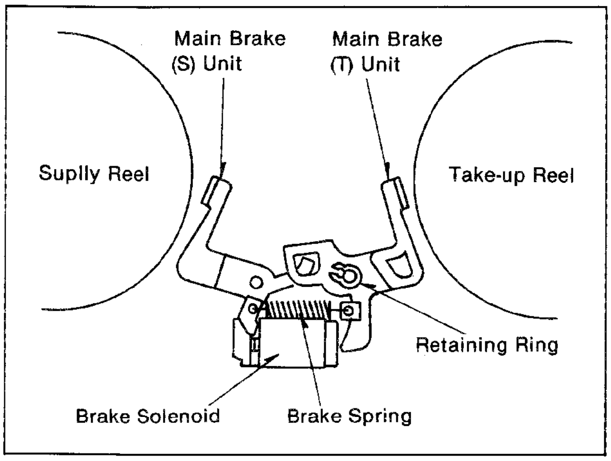

Main Brake (S) Unit
Main Brake (T) Unit
Suplly Reel
Take-up Reel
Retaining Ring
Brake Solenoid
Brake Spring

Figure R16

4. The new Main Brake (S),(T) Unit can be reinstalled by reversing the removal procedure.

*Note: When assembling the DD Reel Motor Unit, slide the Main Rod to far left side by rotating a Center Gear. (Figure R16)

3–8. LOADING MOTOR UNIT MAINTENANCE PROCEDURES

A. Replacement of the Loading Motor Unit

1. Remove the Loading Belt.
2. Remove the Loading Motor Pulley.
3. Disconnect a connector.
4. Unscrew 2 screws (M) and remove the Loading Motor Unit.

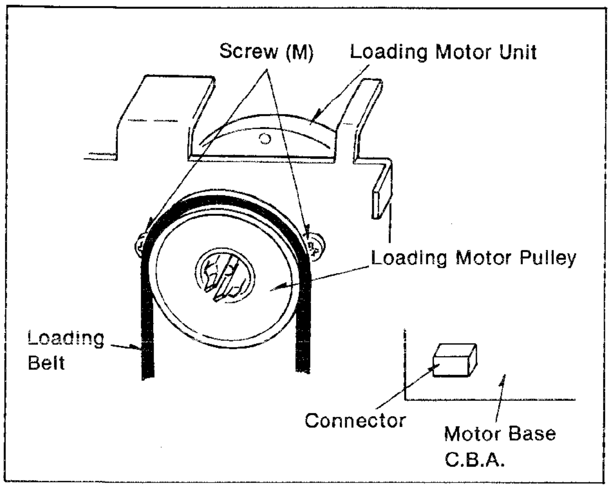

Screw (M)
Loading Motor Unit
Loading Motor Pulley
Loading Belt
Connector
Motor Base C.B.A.

Figure R17

5. The Loading Motor Unit can be reinstalled by reversing the removal procedure.

3–9. HEAD CLEANINGPADUNIT MAINTENANCE PROCEDURES

A. Replacement of the Head Cleaning Pad

1. Remove screw (N) and the Head Cleaning Unit.
2. Remove a Cut Washer (O) and the Head Cleaning Pad Unit.
3. The Head Cleaning Pad Unit can be reinstalled by reversing the removal procedure.

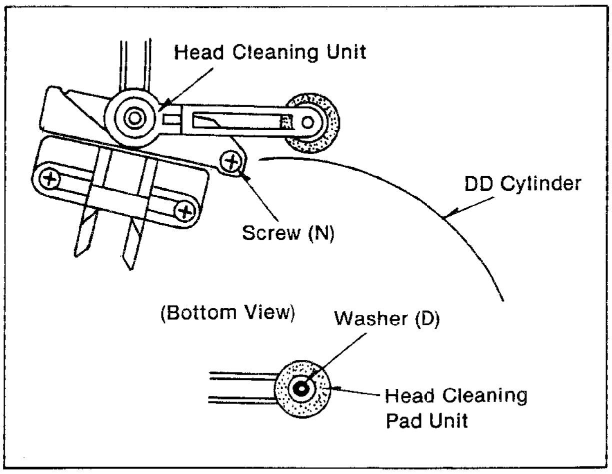

Head Cleaning Unit
DD Cylinder
Screw (N)
(Bottom View)
Washer (D)
Head Cleaning Pad Unit

Figure R18

3–10. MODE SWITCH MAINTENANCE PROCEDURES

A. Replacement of the Mode Switch

1. Place the deck in the STOP mode.
2. Remove the Cassette Compartment Unit. (Refer to Disassembly Procedures)
3. Remove the Pinch Cam Cap and Pressure Roller Unit.
4. Remove the Pinch Cam.

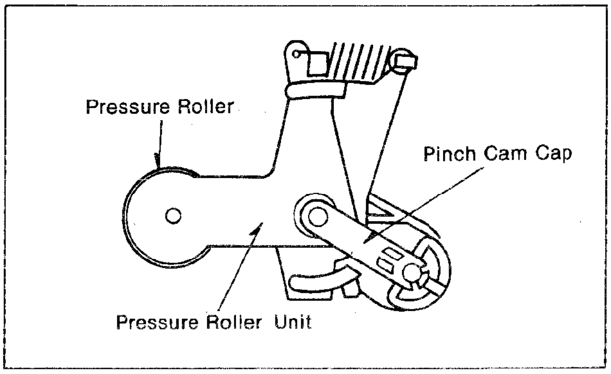

Pressure Roller
Pinch Cam Cap
Pressure Roller Unit

Figure R19

5. Unscrew 2 screws (P) and remove the Loading Motor Base.
6. Unscrew a screw (Q) and unsolder 5 of soldered portions.
7. Finally remove the Mode Switch.

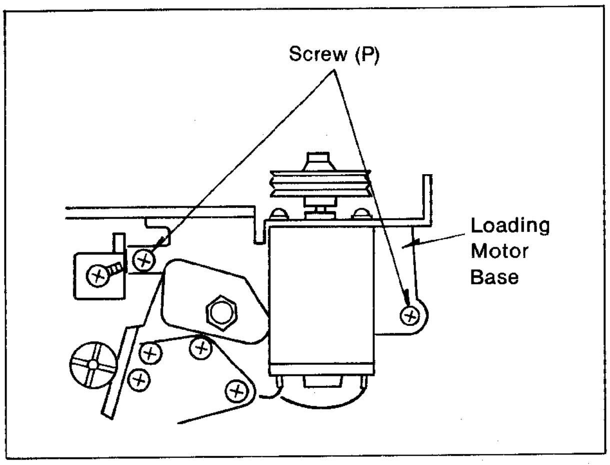

Screw (P)
Loading
Motor
Base

Figure R20

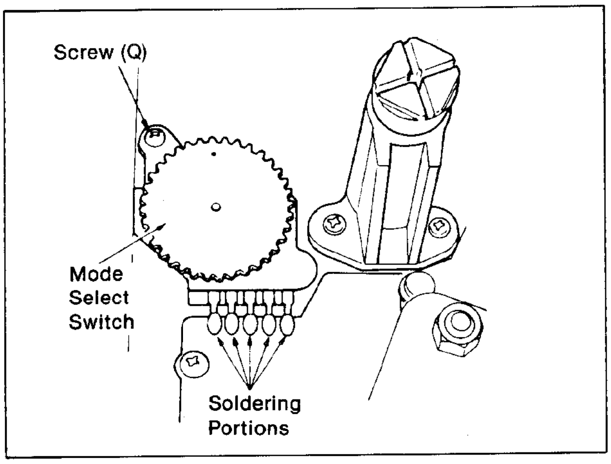

Screw (Q)
Mode
Select
Switch
Soldering
Portions

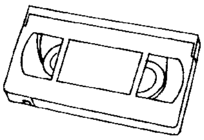
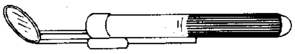
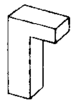
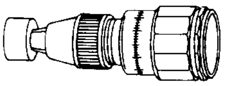
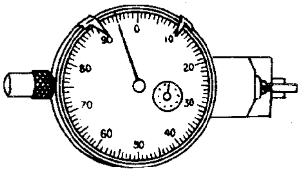
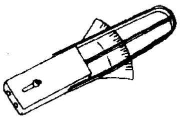
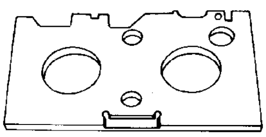
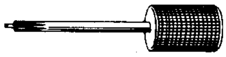
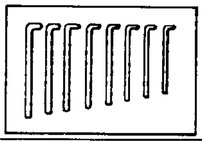
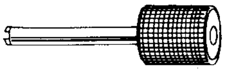
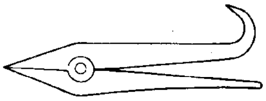
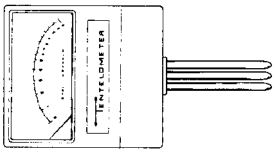
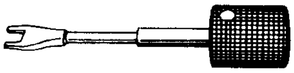
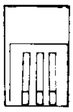
Figure R21

8. Install the Mode Switch and tighten screw (Q), then solder 5 soldering portions.
9. Install the Pinch Cam and Pressure Roller Unit. (Referto "Assembly Procedures of Pinch Cam & Pressure Roller Unit.")
10. Install the Loading Motor Base and tighten screw (P).
11. Install the Cassette Compartment. (Refer to Reinstallation of Cassette Compartment.)

MECHANICAL ADJUSTMENTS

The regular maintenance is important to maintain the initial specification of the deck and to prevent tape damage.
The specified servicing fixture must be used to conduct adjustment.
The following fixtures, tools and measuring equipments are required to conduct complete Mechanical Adjustments.

1. SERVICING FIXTURES & TOOLS

VFM8080HQFP VHS Alignment Tape 	VFK0343 Check Light 	VFK0344 Post Height Adjustment Fixture (P1) 
VFK0133 Dial Torque Gauge VFK0180 Plastic Clamper Only VFK0134 Adaptor for VFK0133 	VFK0190 Reel Table Height Gauge 	VFK66 Fan Type Tension Gauge 
VFK0191 Post Adjustment Plate 	VFK0330 Fine Adjustment Screwdriver (3mmφ) 	VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2, 2.4, 3mm) 
VFK0329 Post Adj. Screwdriver 	VFK0335 Retaining Ring Remover (3mm/4mm) 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.) 
MOR265 Morlytone Grease (Cam Gear, Slide Section, Hyper Pressure Section etc.) 	VFK0328 H-Position Adj. Screwdriver 	VFK27 Head Cleaning Stick 
Cleaning Liquid (Alcohol) <Purchase Locally> (Tape Transport Rubber Parts etc.)	High Quality Machine Oil <Purchase Locally> (Reel Shaft. Capstan Shaft etc.)	

2. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

2–1. ADJUSTMENT FLOW CHART

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing. (Figures M1 and M2)

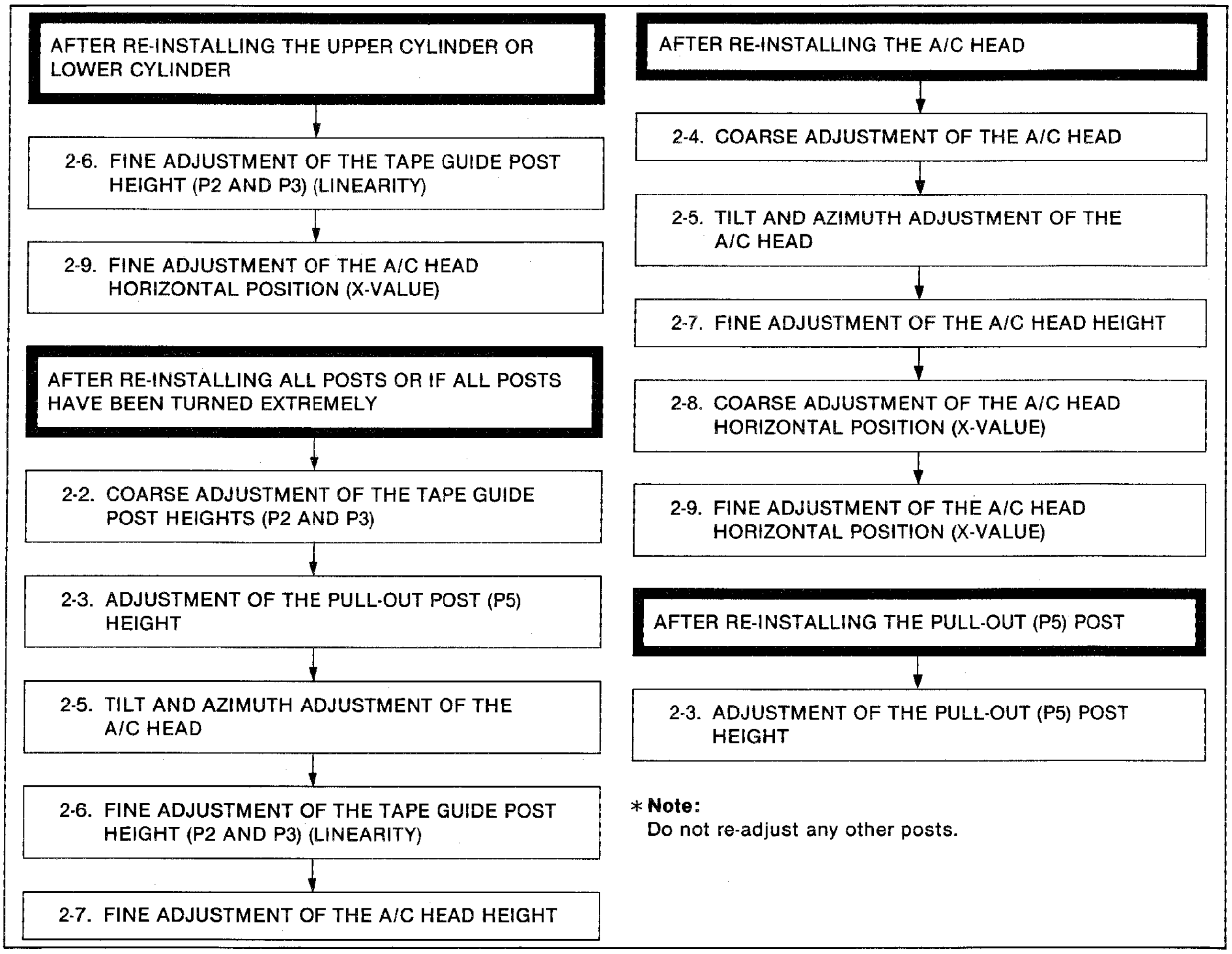

AFTER RE-INSTALLING THE UPPER CYLINDER OR LOWER CYLINDER
2-6. FINE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT (P2 AND P3) (LINEARITY)
2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
AFTER RE-INSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY
2-2. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS (P2 AND P3)
2-3. ADJUSTMENT OF THE PULL-OUT POST (P5) HEIGHT
2-5. TILT AND AZIMUTH ADJUSTMENT OF THE A/C HEAD
2-6. FINE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT (P2 AND P3) (LINEARITY)
2-7. FINE ADJUSTMENT OF THE A/C HEAD HEIGHT
AFTER RE-INSTALLING THE A/C HEAD
2-4. COARSE ADJUSTMENT OF THE A/C HEAD
2-5. TILT AND AZIMUTH ADJUSTMENT OF THE A/C HEAD
2-7. FINE ADJUSTMENT OF THE A/C HEAD HEIGHT
2-8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)
AFTER RE-INSTALLING THE PULL-OUT (P5) POST
2-3. ADJUSTMENT OF THE PULL-OUT (P5) POST HEIGHT
* Note:
Do not re-adjust any other posts.

Figure M1

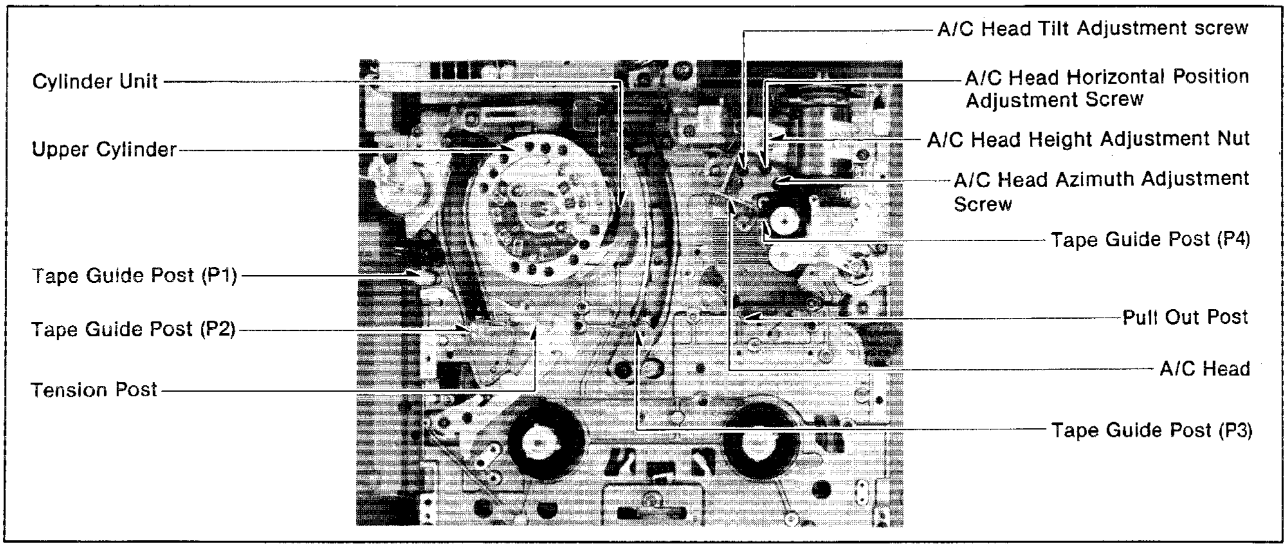

Cylinder Unit
Upper Cylinder
Tape Guide Post (P1)
Tape Guide Post (P2)
Tension Post
A/C Head Tilt Adjustment screw
A/C Head Horizontal Position Adjustment Screw
A/C Head Height Adjustment Nut
A/C Head Azimuth Adjustment Screw
Tape Guide Post (P4)
Pull Out Post
A/C Head
Tape Guide Post (P3)

Figure M2

2-2. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS (P2 and P3)

*Notes:

1. The Tape Guide Posts have been precisely adjusted at the factory.
   Therefore, normally do not change the height of the P2 and P3 Posts.
   The following adjustment is required only when replacing the posts.
2. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.

*Tools and Equipment Required:

Post Adjustment Plate	VFK0191
Reel Table Height Gauge	VFK0190
Post Adjustment Screwdriver	VFK0329
Check Light	VFK0343
Hex. Wrench Set	VFK0326

1. Remove the cassette compartment. (Refer to Disassembly Procedures)
2. Place the Post Adjustment Plate over the reel tables. Confirm that the Post Adjustment Plate is firmly seated as shown in Figure M3.

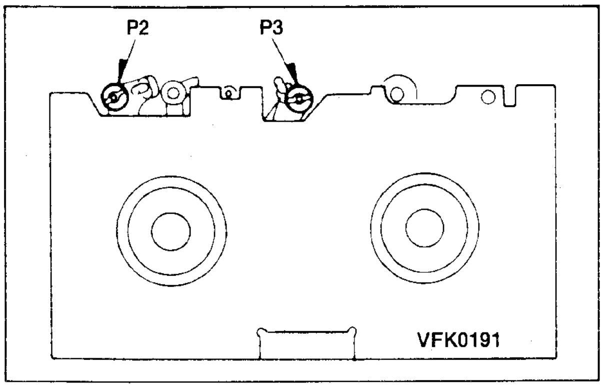


Figure M3

3. Lower 2 tape guide posts (P2 and P3) by turning the Post Adjustment screwdriver so that the condition of post becomes as shown in Figure M4. That is, the lower edge of Tape guide should be lower than surface of Adjustment Plate.

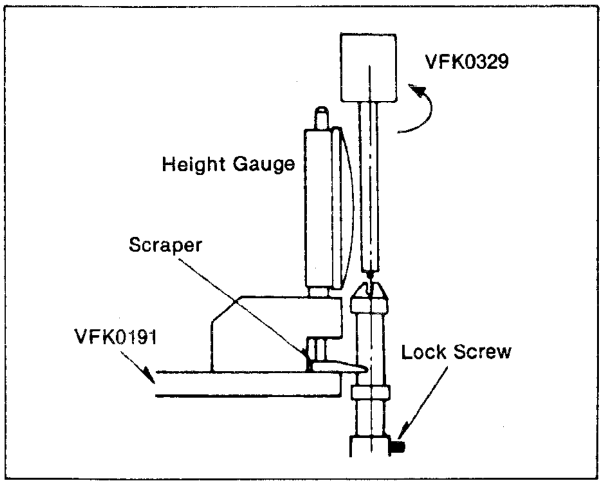


Figure M4

*Note: Before turning P2 and P3 posts, slightly loosen the Lock Screw using the Hex. Wrench.

4. Place the scraper of Reel Table Height Gauge as shown in Figure M5.
   Set the gauge to zero, then raise the post slowly until the lower tape guide just touches the bottom of the scraper. Use the gauge to determine the exact point at which the lower tape guide touches the scraper.

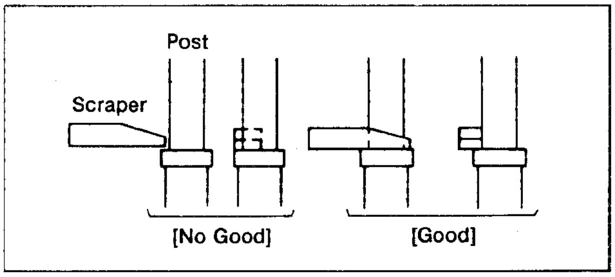


Figure M5

5. After the adjustment, install the cassette compartment referring to "Reinstallation of cassette compartment".
6. Play back the beginning portion of NV-T160 cassette tape, and confirm that tape travel as shown in Figure M6.

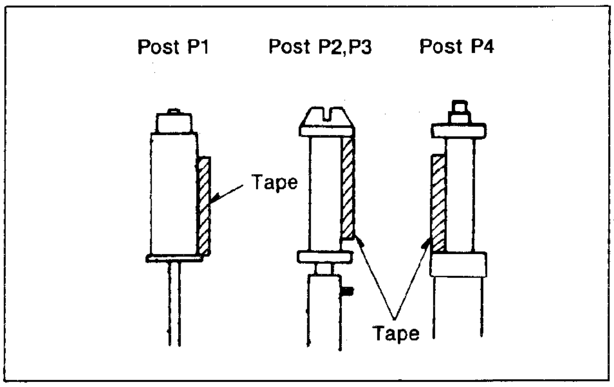


Figure M6

7. Make sure that the edges of the tape are not curling or waving at the bottom or top end of the posts P2, P3 by using the CheckLight.
8. If there are waving or frilling at the lower or upper edge of the P2 and P3 posts, readjust the heights of P2 and P3 Posts correctly as shown in Figure M7.

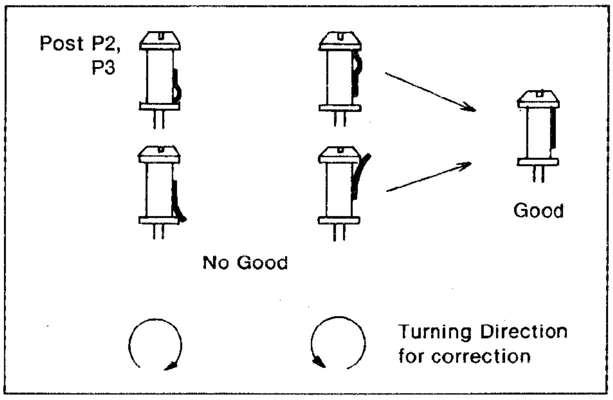


Figure M7

9. And confirm that the tape runs along the Cylinder Lead Correctly.

2-3. ADJUSTMENT OF THE PULL-OUT POST(P5) HEIGHT

***Tools and Equipment Required:**
Post Adjustment Plate....................VFK0191
Reel Table Height Gauge..................VFK0190
Nut Driver.....................(Purchase locally)

***Specification..................−0.03mm +/− 0.01mm**

*Note: Unless the replacement or adjustment this post is required, the adjustment nut should not be turned.

1. Remove the cassette compartment. (Refer to Disassembly procedures)
2. Place the Post Adjustment Plate over the reel tables.
3. Turn the Worm Shaft counterclockwise (loading direction) until the mechanical condition becomes as shown in Figure M8.

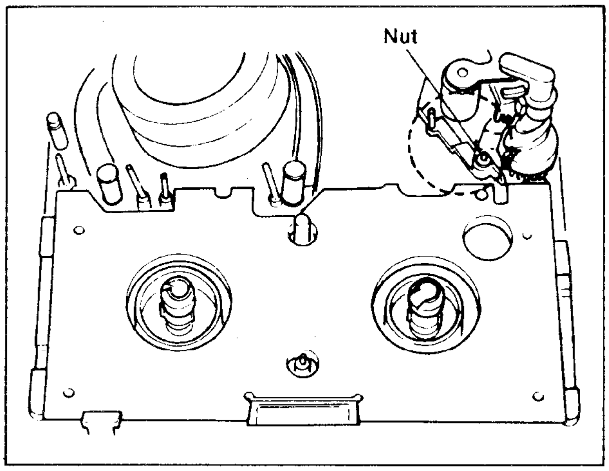


Figure M8

4. Place the Reel Table Height Gauge on the Post Adjustment Plate and set the gauge to zero "0" as shown in Figure M9.

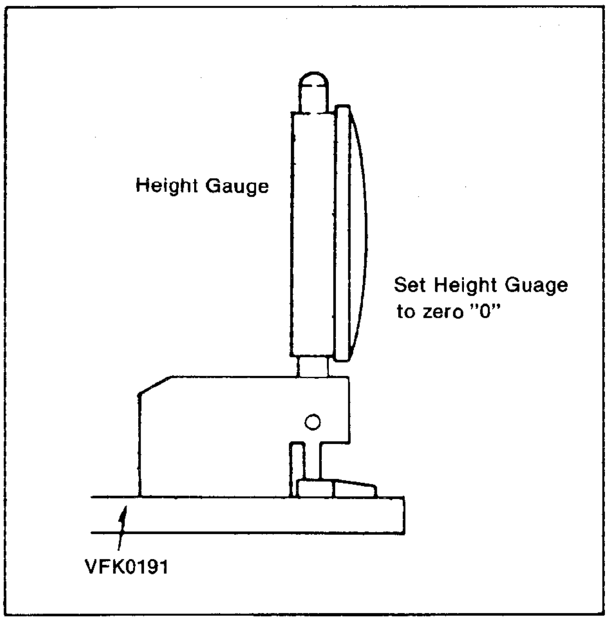


Figure M9

5. Place the Reel Table Height Gauge as shown in Figure M10 and turn the nut slowly until the gauge reads −0.03mm +/− 0.01mm.

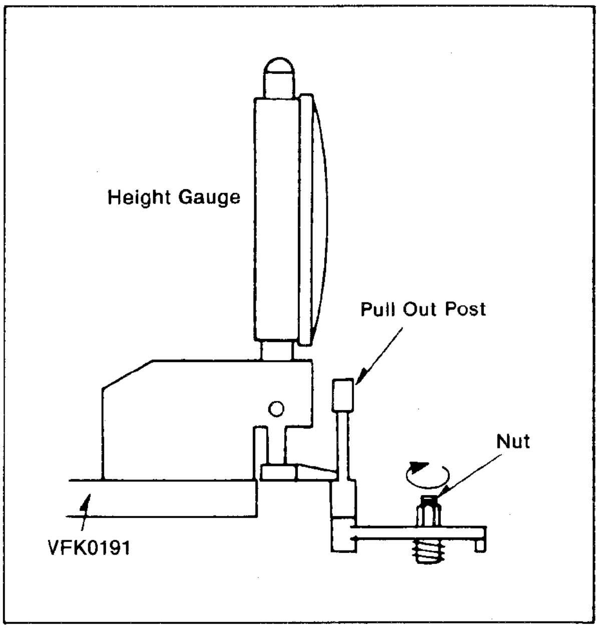


Figure M10

6. After the adjustment, install the cassette compartment. (Refer to "Reinstallation of Cassette Compartment").
7. Play back a normal cassette tape on Review Search mode, and make sure that the edges of the tape are not curling or waving at the bottom end of the P4 post by using the Check Light as shown in Figure M11.

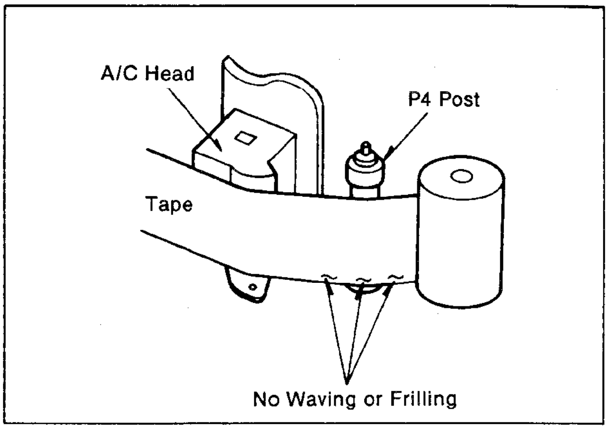


Figure M11

*Note: There is easy method to check Waving or Frilling. If there is Waving or Frilling in the lower edge, the white black pattern which is reflected on the tape will curve or not linear as shown in Figure M12.

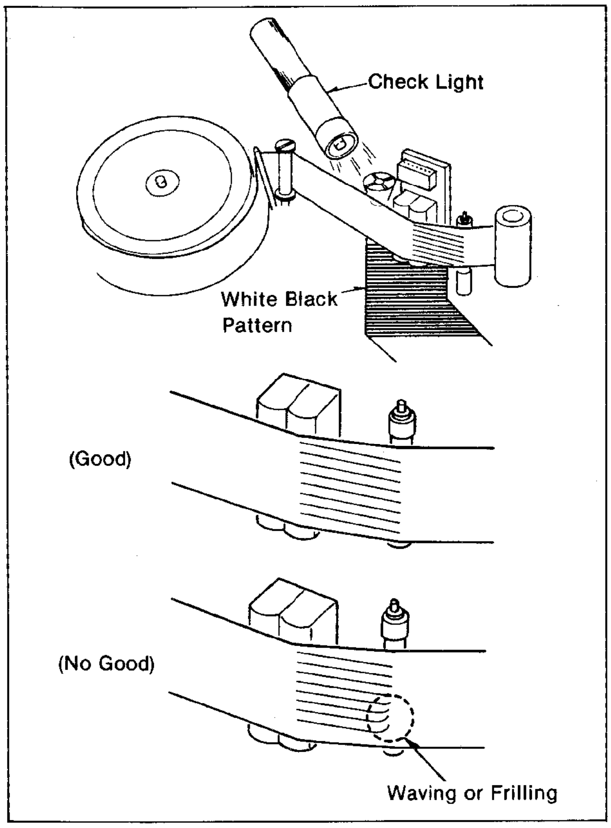

Check Light
White Black Pattern
(Good)
(No Good)
Waving or Frilling

Figure M12

8. If curling appears, readjust P5 post.

2–4. COARSE ADJUSTMENT OF THE A/C HEAD HEIGHT

*Note: This procedure should be performed only when the A/C Head is replaced.

***Tools and Equipment Required:**
Check Light..............................VFK0343
Nut Driver....................(Purchase locally)

1. With the tape running, look at the lower edge of the control head by using the check light.
2. Adjust the Nut (A) as shown in Figure M13 by turning the Nut (A) clockwise to lower the head, and counter–clockwise to raise it.

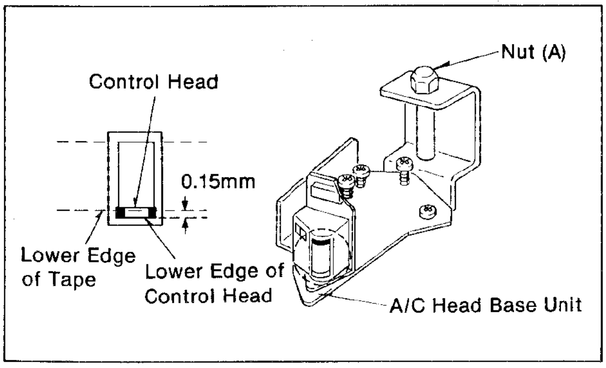

Nut (A)
Control Head
0.15mm
Lower Edge of Tape
Lower Edge of Control Head
A/C Head Base Unit

Figure M13

2–5. TILT & AZIMUTH ADJUSTMENT OF THE A/C HEAD

*Note: This procedure should be performed only when the A/C Head is replaced or posts heights are readjusted.

***Equipment Required:**
Alignment Tape.......................VFM8080HQFP
Check Light..............................VFK0343
VHS Video Tape

1. Play back a VHS Video tape which the amount of tape winding of a Supply Reel is more than the amount of tape winding of a Take up Reel. Turn a screw (B) to clockwise until Waving or Frilling appears in the lower edge of P4 post as Figure M11.

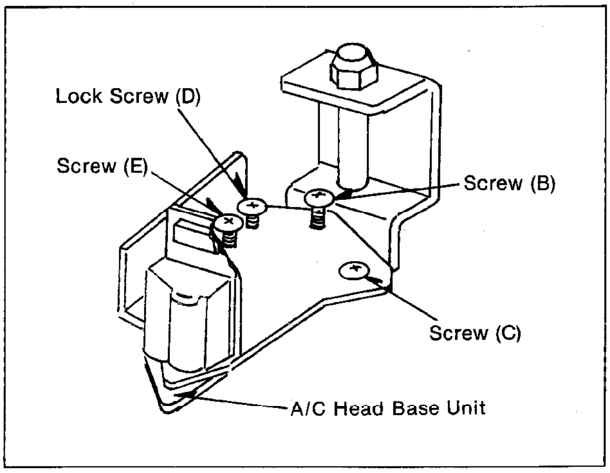

Lock Screw (D)
Screw (E)
Screw (B)
Screw (C)
A/C Head Base Unit

Figure M14

*Note: There is easy method to check Waving or Frilling. If there is Waving or Frilling in the lower edge, White Black pattern which is reflected on the tape will curve or not linear. (Figure M12)

2. Turn the screw (B) to counter–clockwise until waving or frilling do not appear in the lower edge of P4 post.
3. Connect the scope CH1 to TP4005 (Normal Audio Output CH1) and the scope CH2 to TP4006 (Normal Audio Output CH2) on the Audio & Video C.B.A.
4. Play back the 2–nd portion (Normal Audio 10KHz) of the alignment tape (VFM8080HQFP).
5. Adjust the screw (C) so that these phases of both channels match as shown in Figure M15.

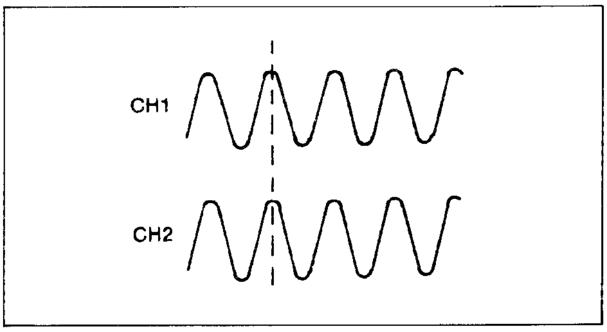


Figure M15

6. Adjust the screw (C) and (B) so that CH1 and CH2 output level become maximum, these phases of both channels much at the same time (Figure M16). During this adjustment the Lock screw (D) does not touch the A/C Head Base as shown in Figure M17.

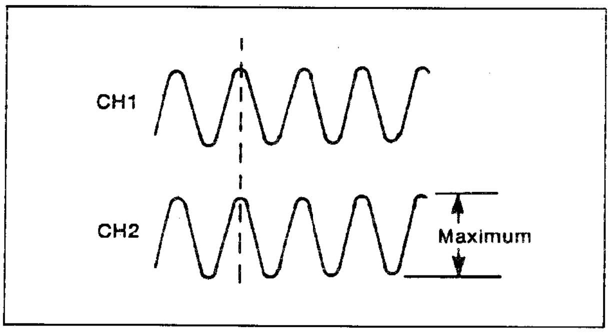


Figure M16

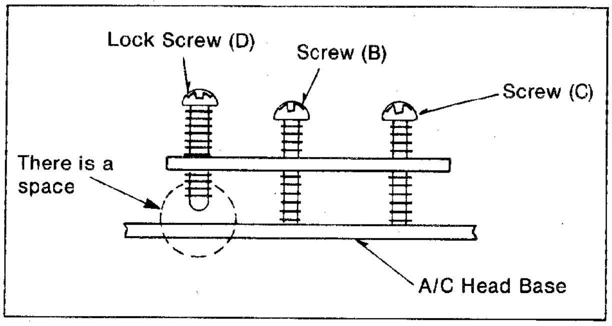


Figure M17

7. Turn the screw (C) to clockwise so that the difference of phases of both channels becomes 180 degrees as shown in Figure M18.

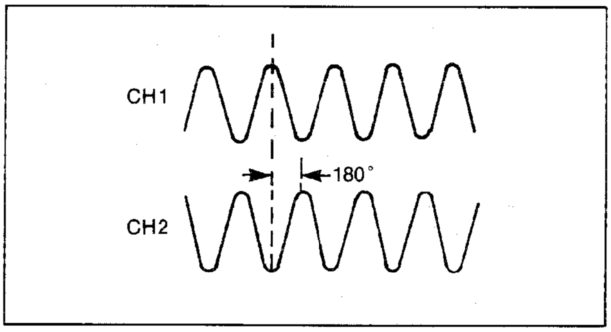


Figure M18

9. Tighten the Lock screw (D) so that these phases of both channels match as shown in Figure M15.

2–6. FINEADJUSTMENT OF THE TAPEGUIDE POST HEIGHT (P2 and P3) (LINEARITY)

*Tools and Equipment Required:
Alignment Tape VFM8080HQFP
Post Adjustment Screwdriver..............VFK0329

*Note: Before playing back the alignment tape playback a normal cassette tape and confirm correct transport.

1. Connect a scope to RF test terminal on the Front Panel and PG test terminal to Ext–Trigger the scope.
2. Play back the 2–nd portion (Monoscope 2) of the alignment tape (VFM8080HQFP).
3. Turn the Tracking Control VR and adjust for maximum VIDEO FM envelope.
4. If the RF envelope appears like example "A" or "B" in Figure M20 then adjustment of the tape guide post (P2 : Entrance) is necessary.
5. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Figure M20–"C".

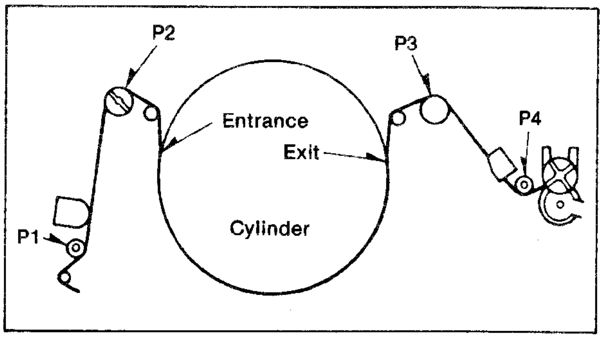


Figure M19

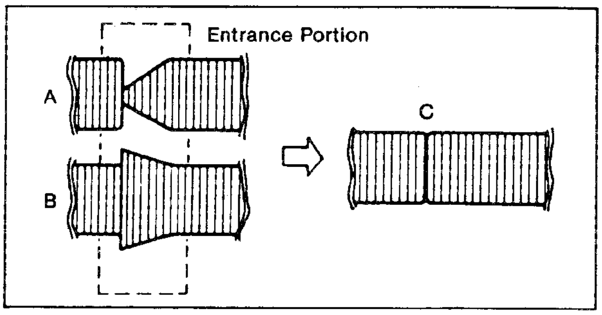


Figure M20

6. If the RF envelope appears like example "D" or "E" in Figure M21, then adjustment of the tape guide post (P3 : Exit) is necessary.
7. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Figure M21–"F".

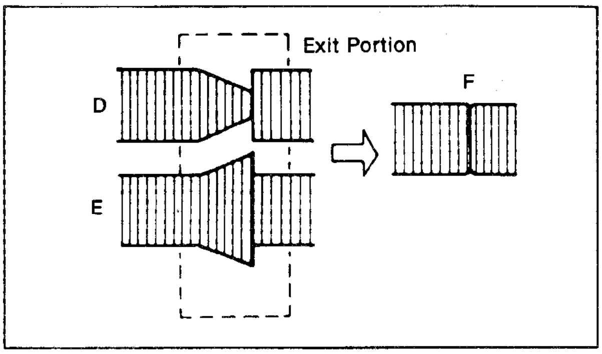


Figure M21

8. Turn the Tracking VR fully clockwise and counterclockwise. The output envelope should vary nearly parallel with other condition as shown in Figure M22.

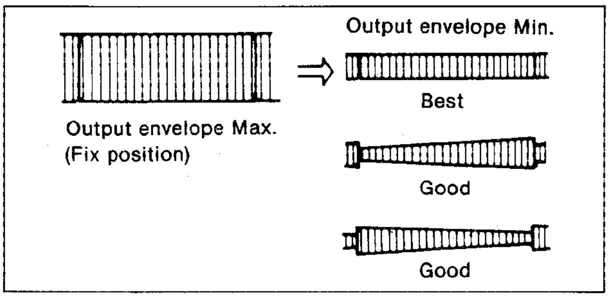

Output envelope Min.
Best
Output envelope Max.
(Fix position)
Good
Good

Figure M22

9. Turn the Tracking VR into center fix position and adjust for maximum RF envelope. If the RF envelope does not meet these specifications,

   V1/VO >= 0.7
   V2/VO >= 0.8
   V3/VO >= 0.7

   then repeat steps 4–9 again.

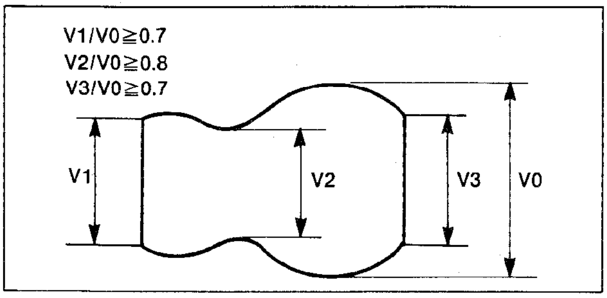

V1/V0≧0.7
V2/V0≧0.8
V3/V0≧0.7
V1
V2
V3
VO

Figure M23

2–7. FINE ADJUSTMENT OF A/C HEAD HEIGHT

*Note; Before this adjustment "4–2–3. Coarse Adjustment of the A/C Head Height" be performed.

***Tools and Equipment Required:**
Alignment Tape......................VFM8080HQFP
Nut Driver...................(Purchase locally)

1. Connect a scope to TP4006 (Normal Audio CH2 Output) on the Audio & Video C.B.A.
2. Play back the 2–nd portion (Normal Audio 10kHz) of the Alignment Tape (VFM8080HQFP).
3. Adjust the Nut (A) (Figure M24) so that the CH2 output level becomes maximum as shown in Figure M25.

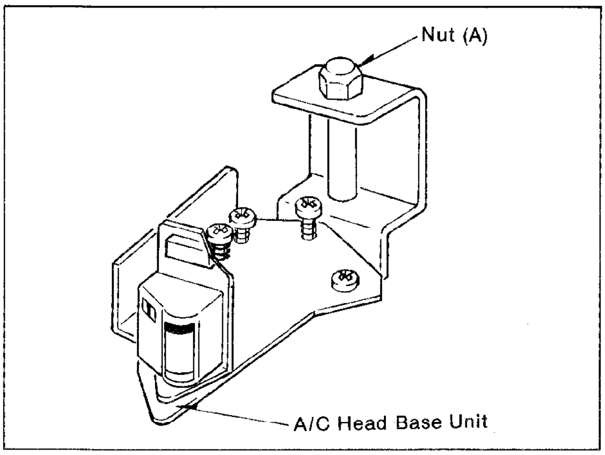

Nut (A)
A/C Head Base Unit

Figure M24

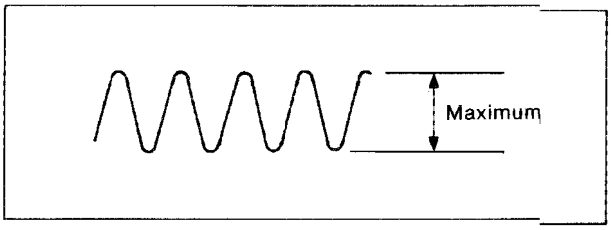


Figure M25

2–8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X–VALUE)

*Note: This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

***Tools and Equipment Required:**
H–Position Adjustment Screwdriver........VFK0328
Alignment Tape.......................VFM8080HQFP

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect a scope CH1 to Video RF Test Terminal on the Front Panel and a scope CH2 to TP4006 (Normal Audio CH2 Output) on the Audio & Video C.B.A.
3. Play back the 4–th position (Monoscope 3 and Audio / Every 10–th field is skipped) of the Alignment tape VFM8080HQFP.
4. Adjust the A/C head horizontal position screw so that the phase of audio drop out and video RF envelope drop–out becomes the same as shown in Figure M26.

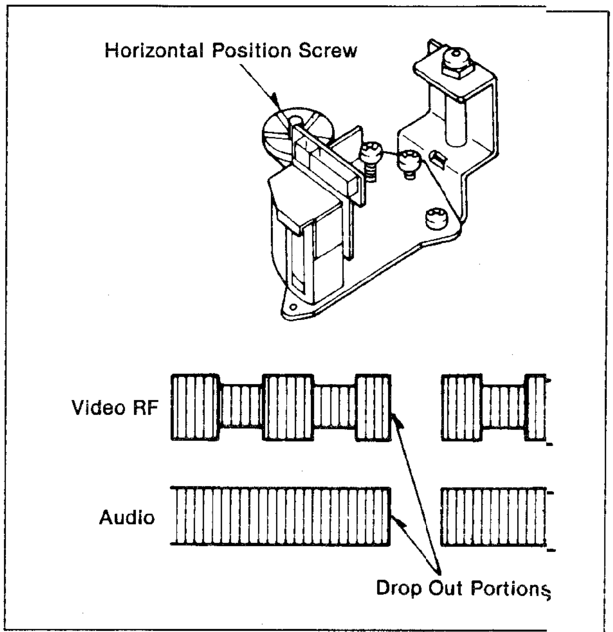

Horizontal Position Screw
Video RF
Audio
Drop Out Portions

Figure M26 Horizontal Position Adjustment of A/C Head

*Note: After completion the fine adjustment of the A/C head horizontal position, the phase of Audio drop–out and Video RF envelope drop– out may be changed slightly.

2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)

*Note: This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

***Tools and Equipment Required:**
H-Position Adjustment Screwdriver........VFK0328
Alignment Tape.......................VFM8080HQFP

1. Set the Tracking Control VR to the center fix position.
2. Connect a oscilloscope to Video RF test Terminal on the Front Panel. 3. Play back the 2-nd portion (Monoscope 2) of the alignment tape (VFM8080HQFP).
4. Adjust the Horizontal Position Screw (Figure M25) of A/C head so that the RF signal becomes maximum level as shown in Figure M27.

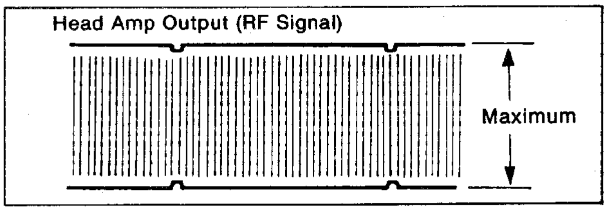


Figure M27

3-3. OTHER MECHANICAL ADJUSTMENT PROCEDURES

3-1. MEASUREMENT AND ADJUSTMENT OF BACK TENSION

***Equipment Required:**
Back Tension Meter.......................VFK0132
VHS Cassette Tape (120 minutes tape except S-VHS tape)

A. FWD Tension Adjustment

***Specification..............................23~27g**

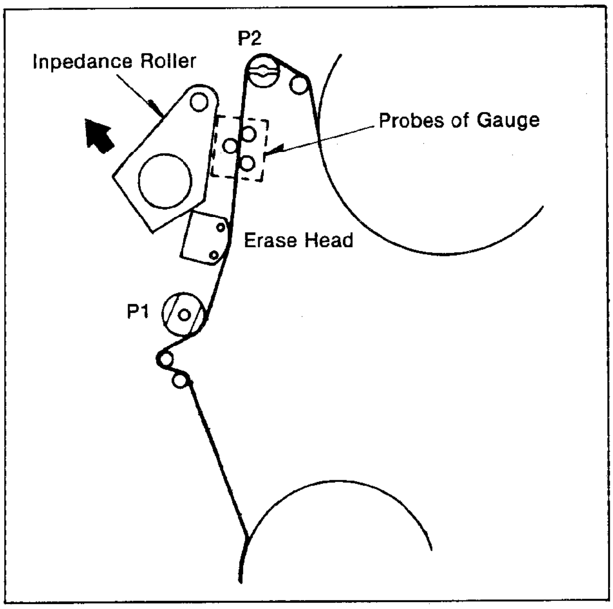


Figure 3-28 Measurement of Back Tension

1. Play back the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10~20 seconds)
2. Pull the Impedance Roller in the direction indicated the arrow in Figure M28 secure it with a piece of adhesive tape.
3. Insert the Back Tension Meter into the path of a tape, and measure the back tension.
4. If it is out of specification, replace the Tension spring.

B. Rev Tension Adjustment

***Specification..............................30~60g**

1. Play back the cassette tape on SP Reverse Play mode from the beginning and wait until the tape movement get the stabilization. (for approx. 10~20 seconds)
2. Pull the Impedance Roller in the direction indicated by the arrow in Figure M28 secure it with a piece of adhesive tape.
3. Insert the Back Tension Meter into the path of a tape, and measure the back tension.
4. If it is out of specification, replace the Tension spring.

*Notes:
1. While measuring, make sure that the three probes of the meter are all in good contact with the tape.
2. As the tension meter is very sensitive, we recommend taking 3 separate readings.

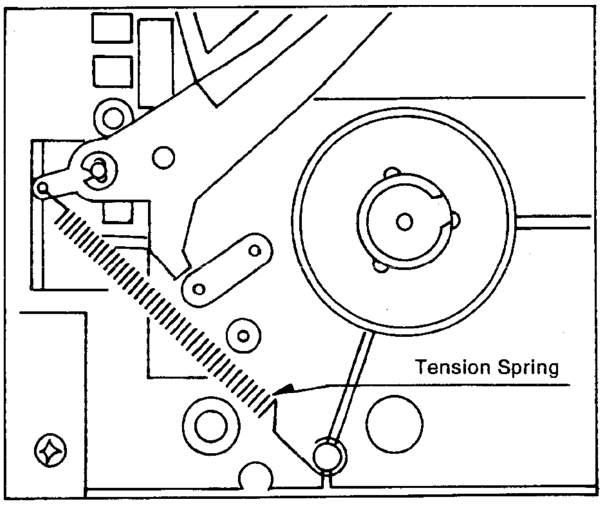


Figure M29

3-2. HEIGHT ADJUSTMENT OF THE REEL TABLES

***Equipment Required:**
Post Adjustment Plate....................VFK0191
Reel Table Height Gauge..................VFK0190

***Specification..........................0 – 0.15mm**

1. Remove the cassette compartment.
2. Place the Post Adjustment Plate on the reel tables.
3. Place the Reel Table Height Gauge on the plate so that the scraper of the gauge touches the cut-out portion of the plate, then set the gauge to zero "0" as shown in Figure M30.

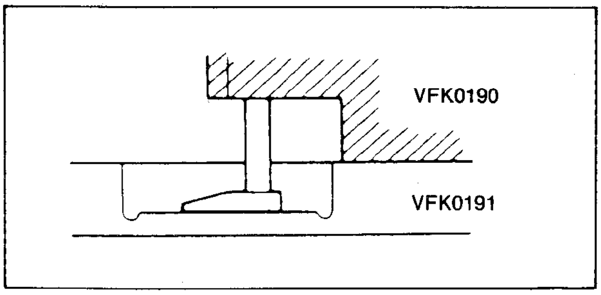


Figure M30

4. Measure the height of the top surface of either Reel Table and note the difference in height from the plate cut-out. (Figure M30 and M31) Repeat this procedures for the other Reel Table.

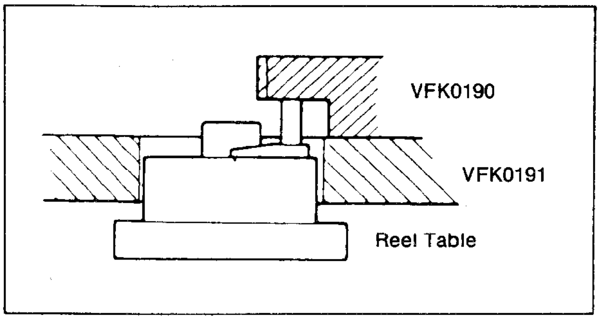


Figure M31

5. If the difference of Supply Reel table is more than 0.15mm higher or lower, replace the Supply Reel table. When the difference of Take Up Reel table is more than 0.15mm higher or lower, adjust nut (A)(Figure M32) so that measurement becomes the spec. If you can not adjust to the spec, replace Take Up Reel table.

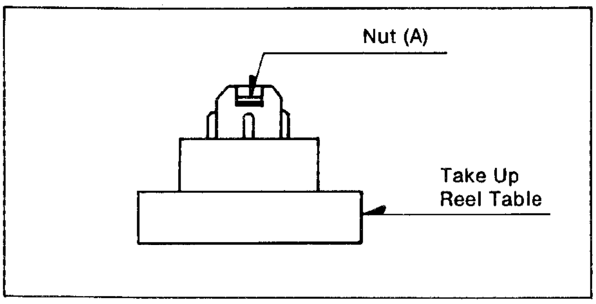


Figure M32

*Note: When replacing the tables, the DD Reel Unit needs to be removed from the chassis. Remove 6 screws and carefully lift it out as shown in Figure M33.

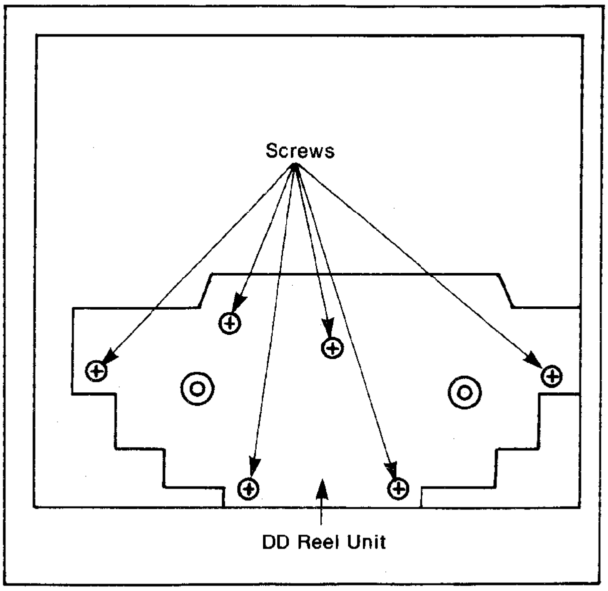


Figure M33 Bottom View of DD Reel Unit

When assembling the DD Reel Unit, slide a Main Rod to far left side by rotating the Center Gear, and then screw the 6 screws.

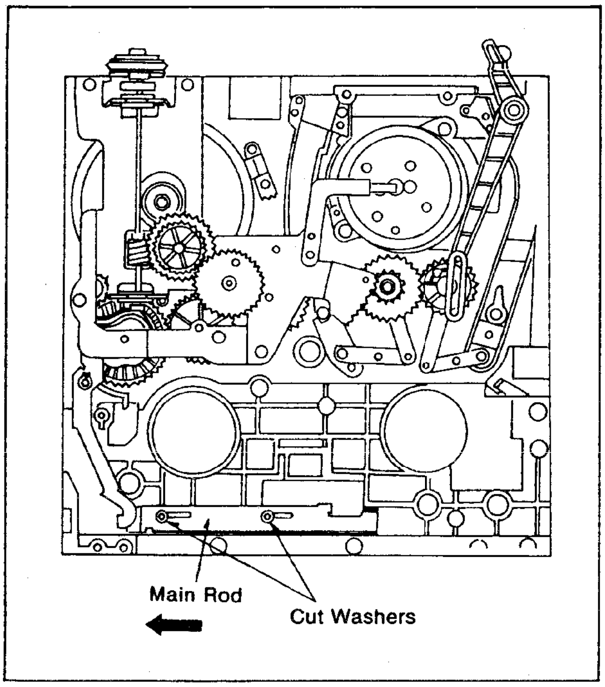


Figure M34

3-3. ADJUSTMENT OF THE CAPSTAN THRUST GAP

***Equipment Required:**
Reel Table Height Gauge..................VFK0190
Height Adjustment Fixture................VFK0344

***Specification....................0.5mm +/– 0.05mm**

1. Turn a Thrust Adjust Screw slightly until the capstan rotor unit just touches the coil of the capstan stator unit.

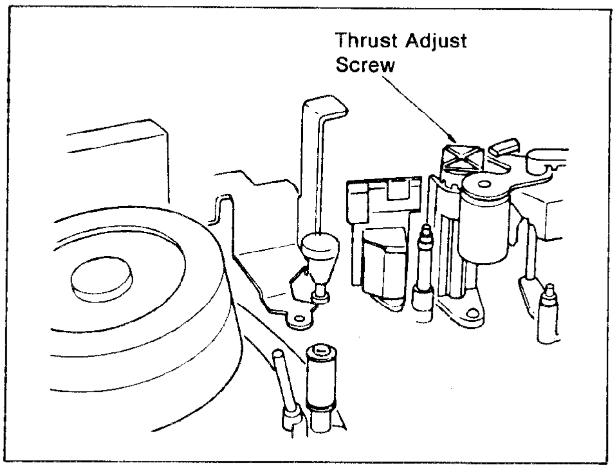

Thrust Adjust Screw

Figure M35

2. Unscrew 4 screws and remove the Gear Base Unit.
3. Set the Height Adjustment Fixture on the capstan Rotor unit as shown Figure M36.

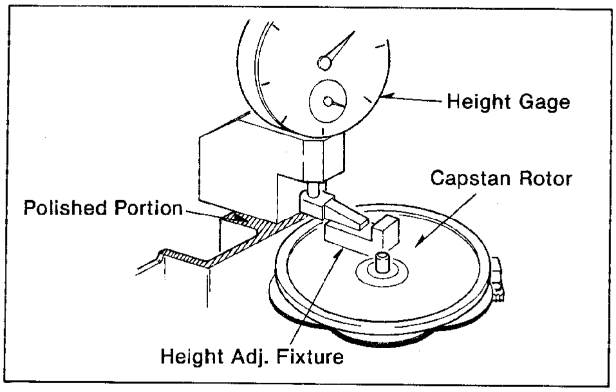

Height Gage
Capstan Rotor
Polished Portion
Height Adj. Fixture

Figure M36

4. Adjust the Thrust Adjust screw so that the thrust gap becomes 0.5mm +/− 0.05mm.

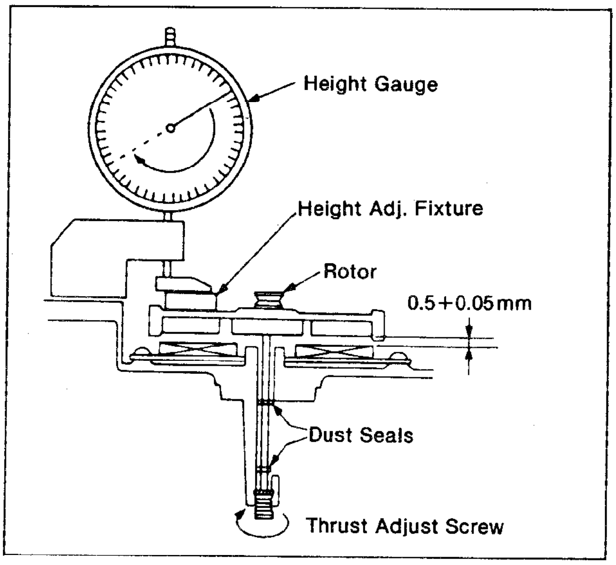

Height Gauge
Height Adj. Fixture
Rotor
0.5+0.05mm
Dust Seals
Thrust Adjust Screw

Figure M37

3–4. MEASUREMENT AND ADJUSTMENT OF THE BRAKE TORQUE

***Equipment Required:**
Torque Gauge............................VFK0133
Adapter for Gauge.......................VFK0134

1. Remove the top cover and the cassette compartment.
2. Attach the adapter to the torque gauge and place the deck in STOP mode (Subloading mode).
3. Place the torque gauge on the reel table as shown in Figure M38. The weight of the gauge should not rest on the reel table.
4. Turn the torque gauge in the direction indicated in Figure M39 until the brake begins slipping and read the gauge.

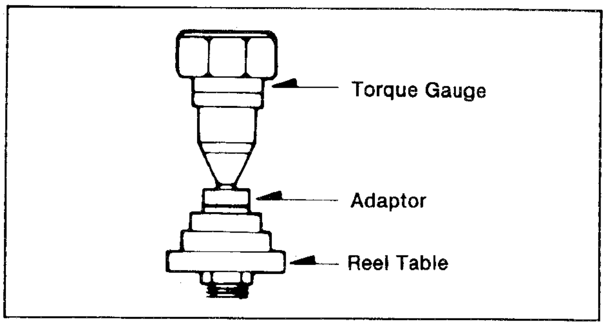
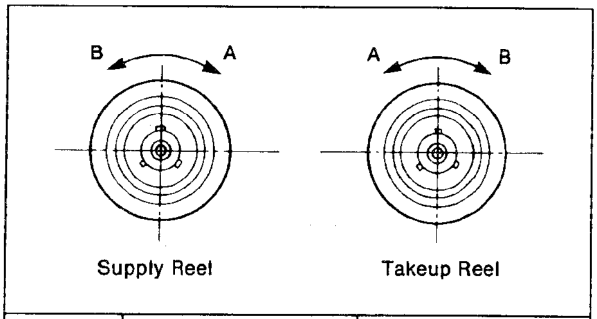

Torque Gauge
Adaptor
Reel Table

Figure M38 Measuring Method


B
A
A
B
Supply Reel
Takeup Reel

	A	B
Takeup	more than 550g-cm	more than 50g-om
Supply		more than 40g-cm

Figure M39 Specification of Brake Torque

5. If it is out of specification, replace the Brake Spring.

*Note: If the proper brake torque cannot be obtained by replacing the Brake Spring, clean the braking surface of the reel table with a soft cloth and re–measure the brake torque. If it's still out of specification, replace the Main Brake (S) or (T) Unit.

3-5. CONFIRMATION OF PRESSING FORCE AND POSITION ADJUSTMENT OF PRESSURE ROLLER UNIT

***Equipment Required:**
Fan – Type Tension Gauge..................VFK66
VHS 120 min. Cassette Tape (Except S–VHS Tape)

1. Remove the Cassette Compartment.
2. Play back the end portion of VHS tape.
3. Set Fan–Type Tension Gauge to the part (A) of Pinch Roller Unit.
4. Press the Arm with the Gauge, in the direction indicated by the arrow as show in Figure M40.
5. Confirm that the reading of the Tension Gauge is 1,050g +/– 230g at the moment of the tape stop.
6. If it is out of spec., replace the Pinch Pressure Spring.
7. Confirm that the reading of the clearance (T) is more than 0.5mm. (Figure M41)
8. If it is out of spec, replace the Pressure Roller Unit.

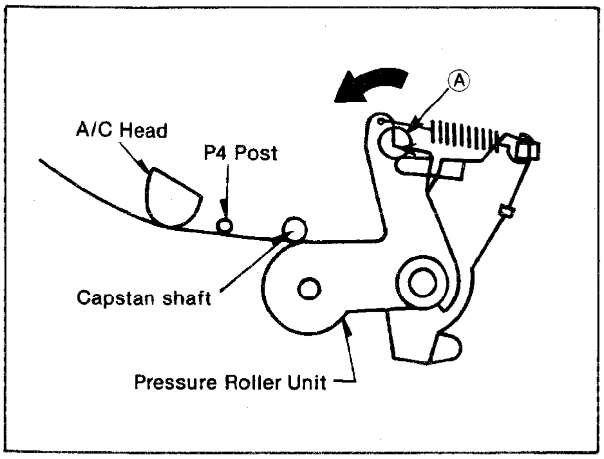


Figure M40

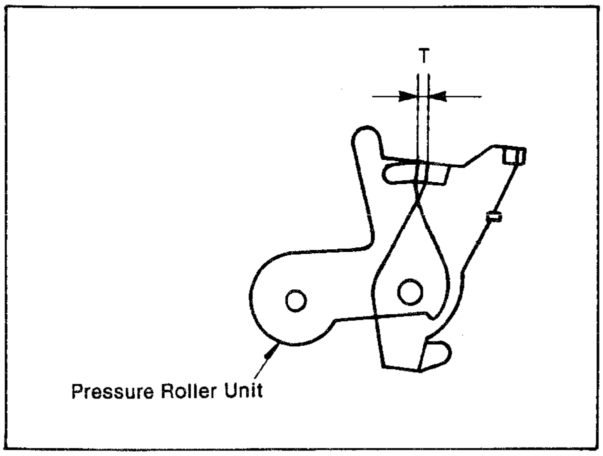


Figure M41

3-6. ADJUSTMENT OF FG HEAD GAP

***Specification........................0.17~0.18mm**

1. Slightly loosen 2 screws. (FigureM42)
2. Put the paper which is used for cover page of this volume into the gap between F.G.Head and Capstan rotor. (The thickness of the cover page is approx. 0.17mm).
3. After adjustment, tighten 2 screws.

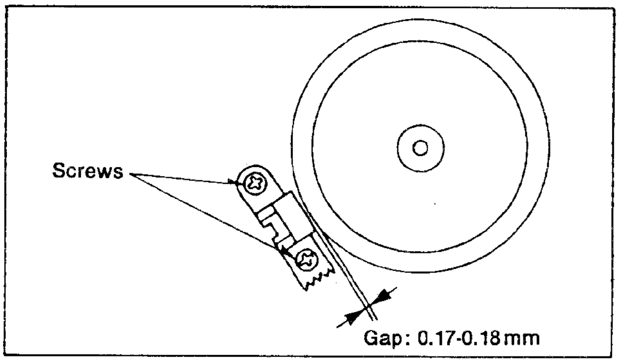


Figure M42

*Note: Do not touch the surface of rotor and keep any magnetizable material away.

3-4. ASSEMBLY AND ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the System Control Circuit, through the mode select switch.
Therefore the relation between the mode select switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If these parts are not fixed properly, the unit will be unloaded or compulsorily stopped.
And it will result being damaged at any mechanical or electrical parts.
The overall mechanical condition (alignment) of bottom and top view are shown in Figure M43 and Figure M44. This mechanical adjustment is performed in the "STOP" mode.

3-4-1. CONFIRMATION OF ALIGNMENT CONDITION

1. Remove the Loading Belt.
2. Unscrew 4 screws and remove the Gear Base Unit. (Figure M43)
3. Turn the Center Gear to counter–clockwise until 2 big holes of Center Gear align with 2 big holes of Retainer Gear and Ring Gear and Chassis as shown in Figure M45.
4. Identification hole on the Mode Select Switch at 6 o'clock position and aligned with small hole on Pinch Cam as shown in Figure M44.
5. P5 Arm is completely loading position and the Inclined Base (S) and (T) are completely unloading position.
6. Small hole on Sub Cam Gear should align with small hole on the Connection Gear and rectangular mark on the Connection Gear should be at a 3 o'clock position.
7. Pressure Roller Unit is "UP" position.

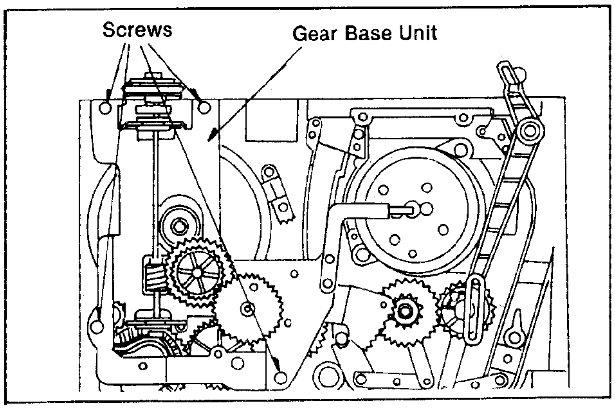

Screws
Gear Base Unit

Figure M43

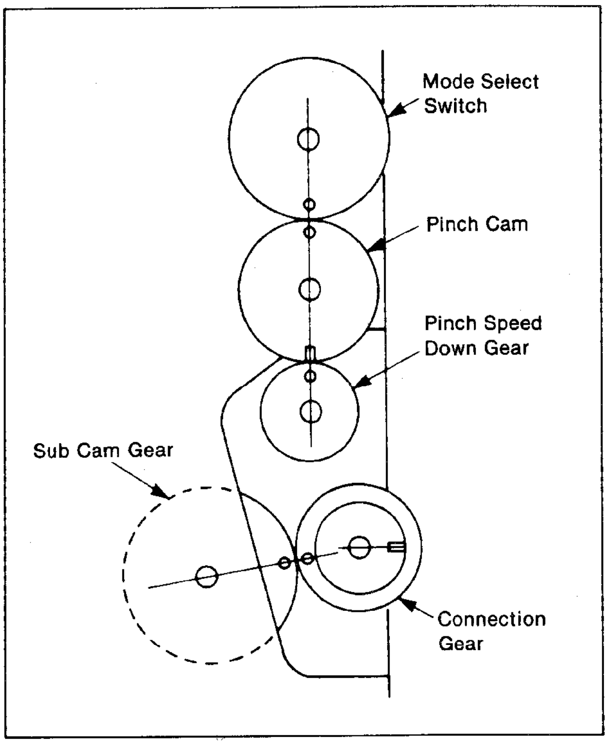

Mode Select Switch
Pinch Cam
Pinch Speed Down Gear
Sub Cam Gear
Connection Gear

Figure M44 Top View of Overall IQ–Mechanical Condition

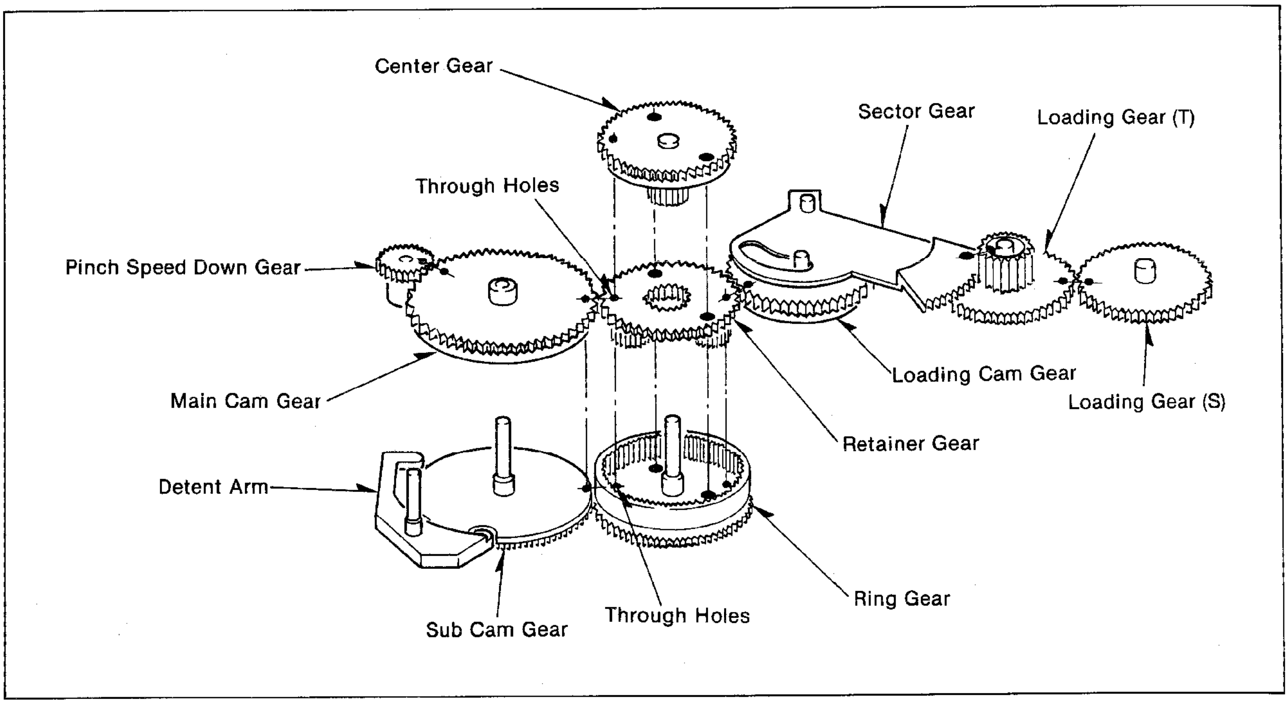

Center Gear
Sector Gear
Loading Gear (T)
Through Holes
Pinch Speed Down Gear
Loading Cam Gear
Loading Gear (S)
Main Cam Gear
Retainer Gear
Detent Arm
Ring Gear
Through Holes
Sub Cam Gear

Figure M45 Bottom View of Overall Mechanical Condition

4–2. ASSEMBLY PROCEDURES OF SUB CAM GEAR, RING GEAR AND DETENT ARM

1. Install the Ring Gear so that the two holes on the Ring Gear align with the two holes on the chassis as shown in Figure M46.
2. Install the Sub Cam Gear so that the large hole on Sub Cam Gear aligns with the hole on chassis. Also the small hole (located just outside of large hole) on Sub Cam Gear should align with the hole on Ring Gear as shown in Figure M46.
3. Confirm that the small hole on Sub Cam Gear is aligned with the small hole on Connection Gear as shown in Figure M44 (In case of the Connection Gear is already installed).
4. Install the Detent Arm and make sure Detent Arm seats perfectly in detent of Sub Cam Gear as shown in Figure M46.

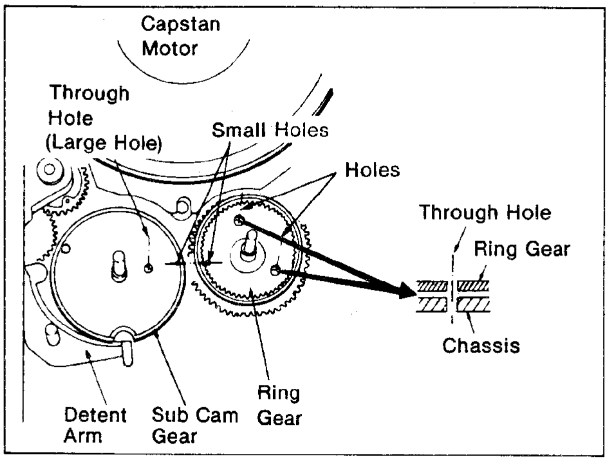

Capstan Motor
Through Hole (Large Hole)
Small Holes
Holes
Through Hole
Ring Gear
Chassis
Ring Gear
Detent Arm
Sub Cam Gear

Figure M46

4–3. ASSEMBLY PROCEDURES OF MAIN CAM GEAR AND PINCH SPEED DOWN GEAR

1. Install the Main Cam Gear onto the Sub Cam Gear so that the small hole on the Main Cam Gear aligns with small hole on the Ring Gear as shown in Figure M47.
2. Insert a retaining ring.
3. Install the Pinch Speed Down Gear from top side of chassis so that the small hole on the Main Cam Gear aligns with small hole on the Pinch Speed Down Gear as shown in Figure M47.

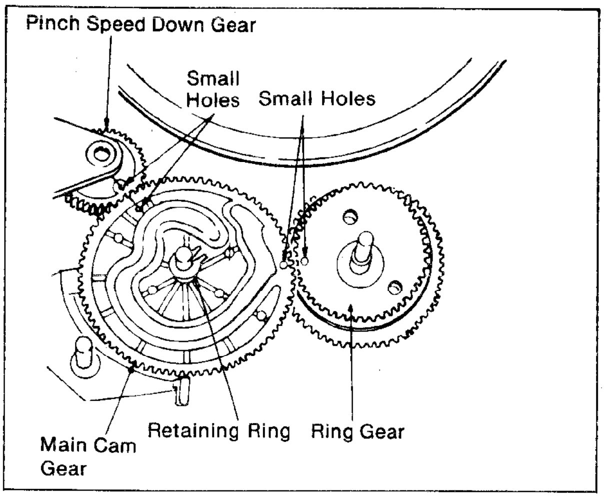

Pinch Speed Down Gear
Small Holes
Small Holes
Main Cam Gear
Retaining Ring
Ring Gear

Figure M47

4–4. ASSEMBLY PROCEDURES OF LOADING CAM GEAR AND RETAINER GEAR

1. Install the Retainer Gear onto the Ring Gear so that the two holes on the Retainer Gear align with the two holes on the Ring Gear, at this time, small hole on the Main Cam Gear should aligns with small hole on the Retainer Gear as shown in Figure M48.
2. Install the Loading Cam Gear so that the small hole which is directly outside of the large hole on the Loading Cam Gear is aligned with the outside hole of the Retainer Gear as shown in Figure M48.

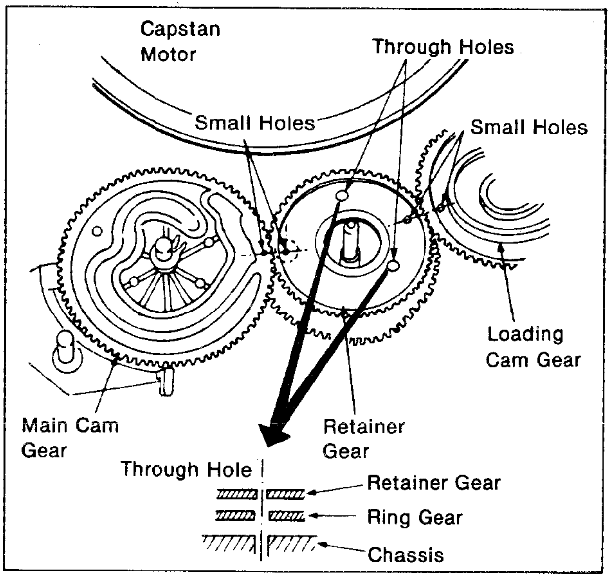

Capstan Motor
Through Holes
Small Holes
Small Holes
Loading Cam Gear
Main Cam Gear
Retainer Gear
Through Hole
Retainer Gear
Ring Gear
Chassis

Figure M48

4–5. ASSEMBLY PROCEDURES OF CENTER GEAR

1. Softly Install the Center Gear onto the Retainer Gear so that the two holes in the Center Gear align with the holes on the Retainer Gear, then install the cut washer as shown in Figure M49.

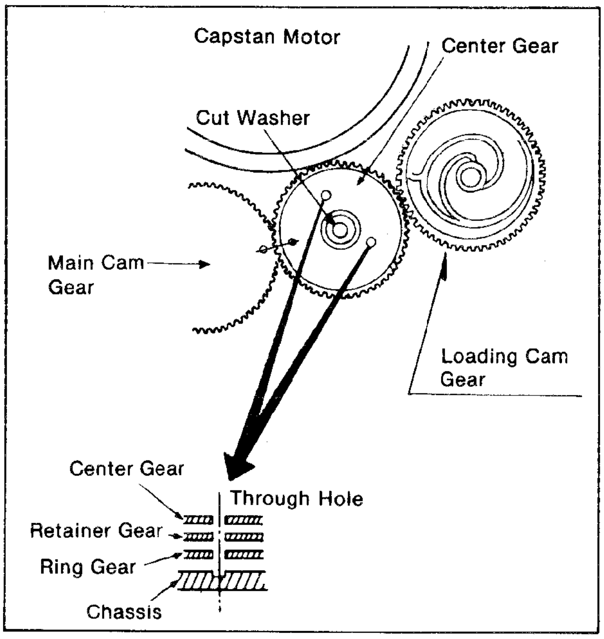

Capstan Motor
Center Gear
Cut Washer
Main Cam Gear
Loading Cam Gear
Center Gear
Through Hole
Retainer Gear
Ring Gear
Chassis

Figure M49

4-6. ASSEMBLY PROCEDURES OF MAIN LEVER AND CAM FOLLOWER ARM UNIT

1. Install the Main Rod and then insert the cut washers as shown in Figure M50.
2. Install the Cam Follower Arm so that the pin of the Cam Follower Arm inserts into the groove of the Main Cam Gear and also inserts into the slot on the Main Rod, insert the retaining ring.

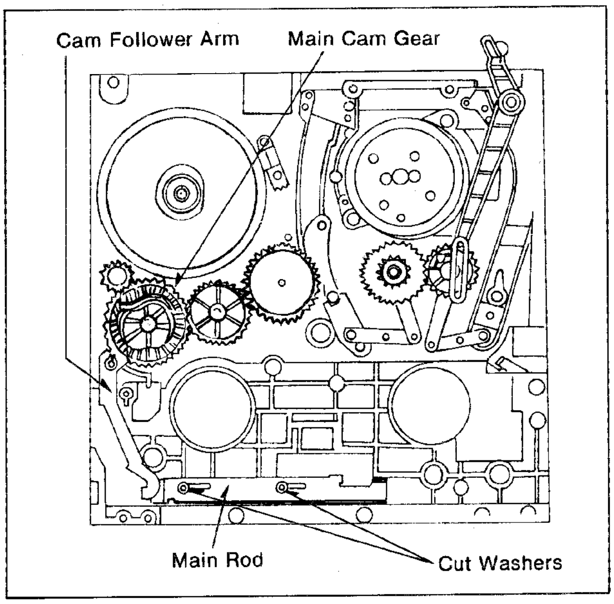

Cam Follower Arm
Main Cam Gear
Main Rod
Cut Washers

Figure M50

4-7. ASSEMBLY PROCEDURES OF LOADING GEAR (T), LOADING GEAR (S) SECTOR GEAR

1. Set the P2 and P3 posts to fully unloaded position, then install the Loading Gear (T) and (S) so that the outer hole on the Loading Gear (T) aligns with the outer hole on the Loading Gear (S) as shown in Figure M51.
2. Install the Sector Gear so that the outer hole in the Sector Gear aligns with the projection mark on Loading Gear (T).
3. Insert 3 retaining rings as shown in Figure M52.

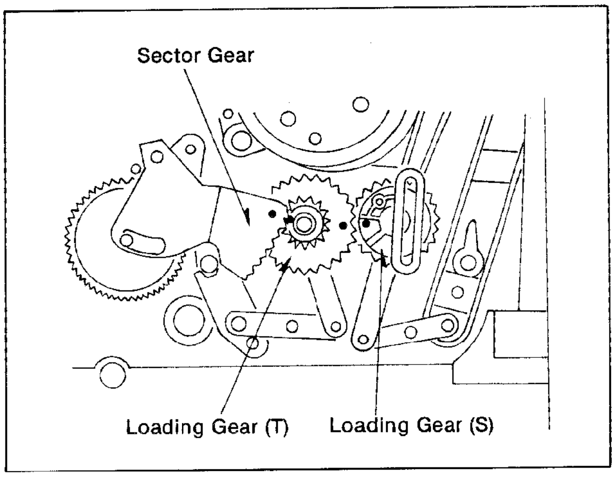

Sector Gear
Loading Gear (T)
Loading Gear (S)

Figure M51

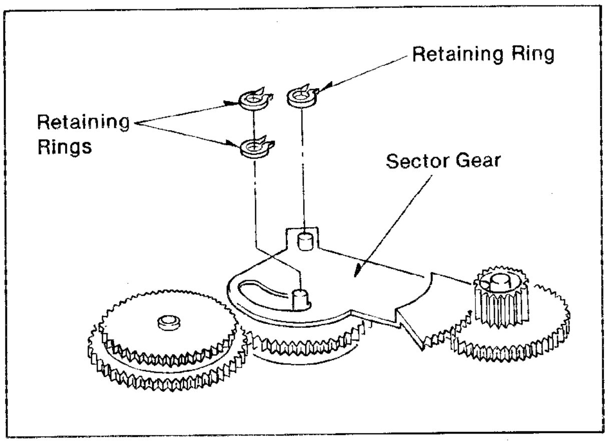

Retaining Ring
Retaining Rings
Sector Gear

Figure M52

4-8. ASSEMBLY PROCEDURES OF CONNECTION GEAR

*Note: Before assembling, Sub Cam Gear position (and positions of bottom side gears) must be correct as described before (Figure M44).

1. Install the Connection Gear so that the small hole on the Connection Gear aligns with the small hole on the Sub Cam Gear as shown in Figure M53.

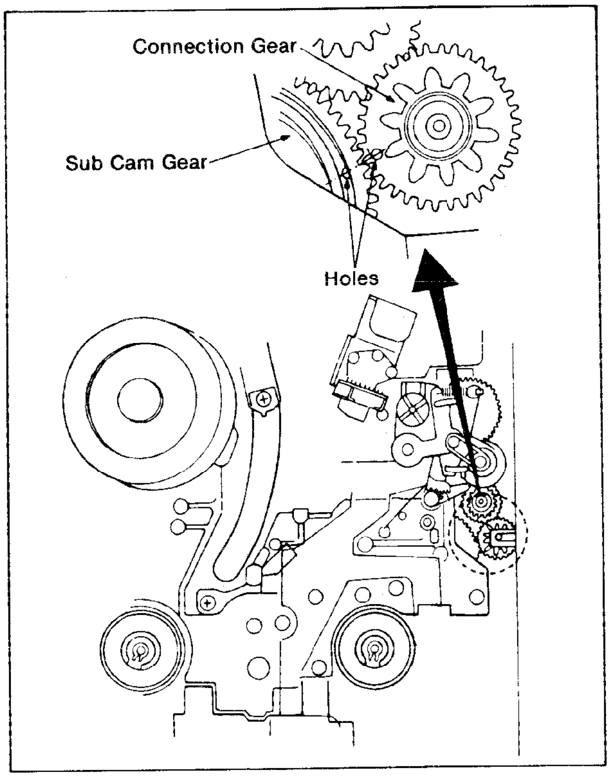

Connection Gear
Sub Cam Gear
Holes

Figure M53

4–9. ASSEMBLY PROCEDURES OF MODE SWITCH AND P5 PULL OUT SECTOR GEAR

1. Turn the Center Gear to unloading position.
2. Install the Mode Select Switch and tighten the mounting screw, then solder the 5 soldering portions.
3. Install the P5 Pull Out Sector Gear so that the hole of P5 Pull Out Sector Gear aligns with the tip of gear at P5 Arm as shown in Figure M54.

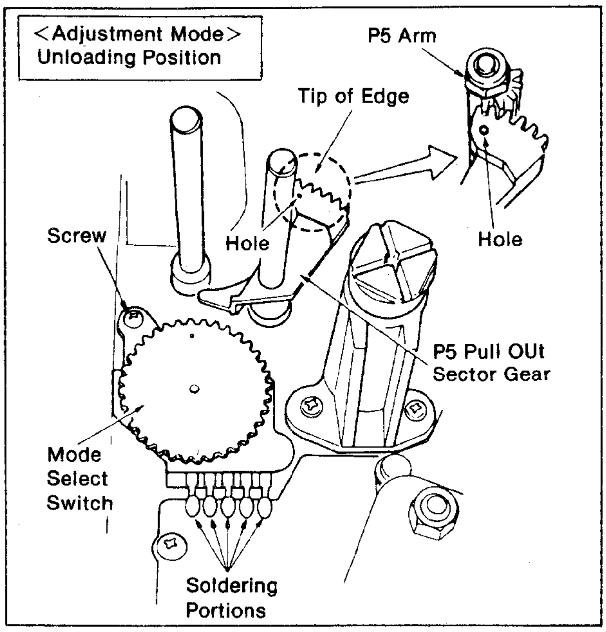

<Adjustment Mode>
Unloading Position
P5 Arm
Tip of Edge
Screw
Hole
Hole
P5 Pull OUt Sector Gear
Mode Select Switch
Soldering Portions

Figure M54

4–10. ASSEMBLY PROCEDURES OF PINCH CAM AND PRESSURE ROLLER UNIT

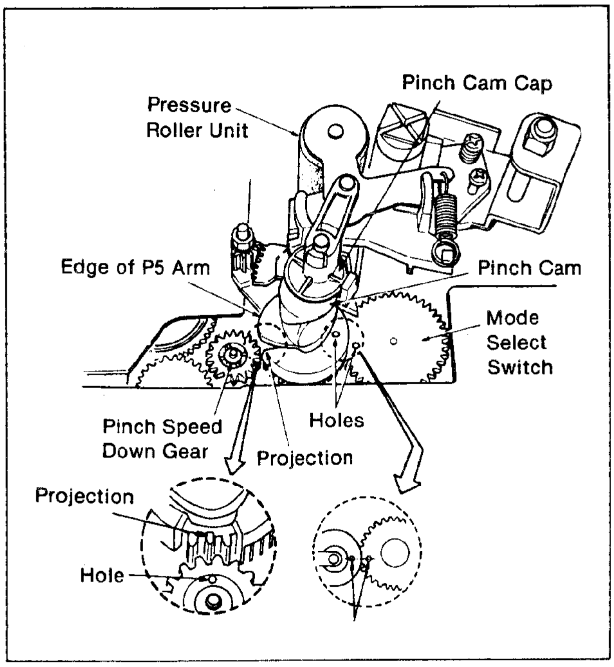

Pinch Cam Cap
Pressure Roller Unit
Edge of P5 Arm
Pinch Cam
Mode Select Switch
Holes
Pinch Speed Down Gear
Projection
Projection
Hole

Figure M55

1. Install the Pinch Cam while pushing the P5 post forward. The gear of the Pinch Cam should drop to a seated position. In this position make sure hole in the Mode Select Switch aligns with small hole on the Pinch Cam, also the small rift on the Pinch Cam should align with the hole on the Pinch Speed Down Gear as shown in Figure M55.
2. Install the Pressure Roller Unit. Make sure the seats perfectly onto the Pinch Cam, then install the Pinch Cam Cap.

4–11. ASSEMBLY PROCEDURES OF GEAR BASE UNIT

1. Install the Gear Base Unit and screw 4 screws as shown in Figure M56.

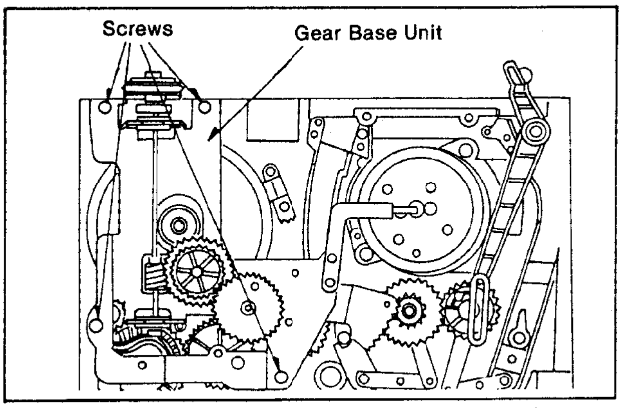

Screws
Gear Base Unit

Figure M56

*Note: The Gear Base Unit has 2 gears and wormshaft. There is no adjustment for these gears

4–12. REINSTALLATION OF CASSETTE COMPARTMENT

When you reinstall the cassette compartment, the position adjustment of mechanism is necessary for correct operation, as follows.

A. Confirmation of STOP Alignment Condition

1. Turn the Wormshaft counter–clockwise or clockwise until mechanism is placed into the Alignment Condition as following conditions.
   a) Identification hole on the Mode Select Switch at 6 o'clock position and aligned with small hole on Pinch Cam. (Figure M55)
   b) P5 Arm is completely loading position and the Inclined Base (S) and (T) are completely unloading position.
   c) Small hole on Sub Cam Gear should align with small hole on the Connection Gear (Figure M53) and rectangular mark on the Connection Gear should be at a 3 o'clock position.
   d) Pressure Roller Unit is "UP" position.

B. Confirmation of Cassette Compartment

1. Confirm that the Cassette Compartment is aligned properly. In the EJECT position (Cassette Holder up and advanced to the front) the two V–shaped marks on the slide switch should align. The slide switch is located on the right side of the Cassette Assembly towards the rear as shown in Figure M57.

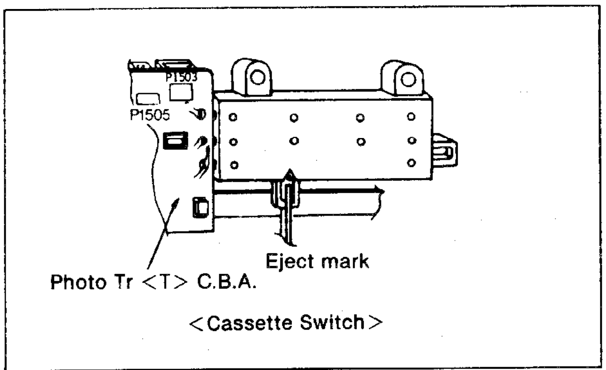


Figure M57

2. Remove 2 screws (A) as shownin Figure M58.
3. Take the top plate out.
4. Take the cassette Holder unit out as shown in Figure M59.

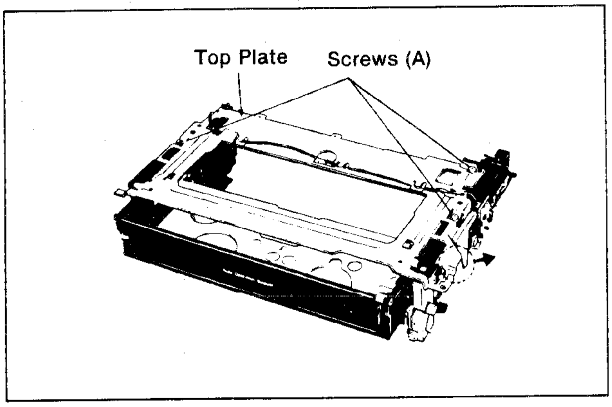


Figure M58

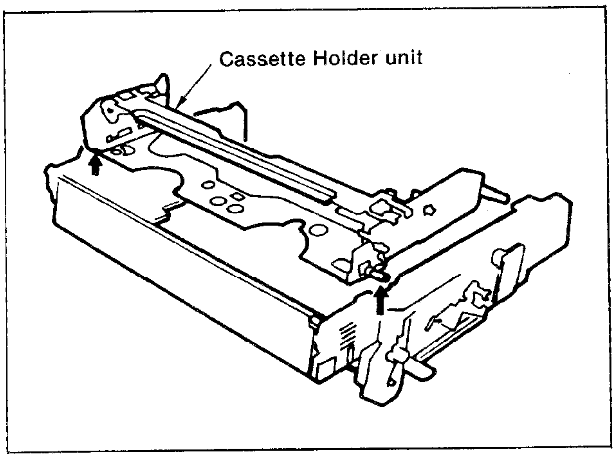


Figure M59 Removal of cassette holder unit

5. Press the sub wiper arm (R) to direction indicated by arrow so that the sub wiper arm (R) comes to cassette down position (STOP) completely as shown in Figure M60 and keep it. In this position, the arrow on the Sub Wiper Arm (R) should align with the arrow on the Rack (A)(1) Unit as shown in Figure M61.

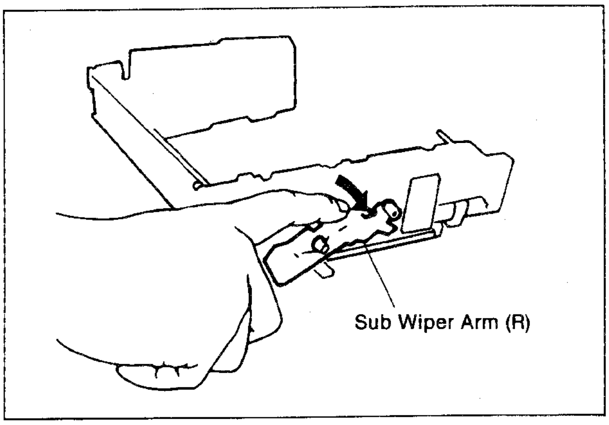


Figure M60

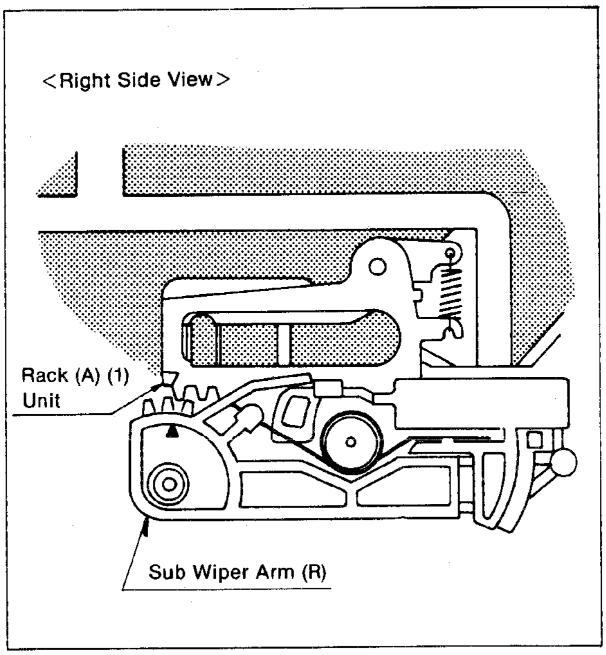


Figure M61

6. If the Cassette Compartment is not aligned, re–alignment may be accomplished by pushing the Main Shaft Unit to the right (gently) and pushing the front of the Rack Unit to the left. This procedure will disengage the teeth of the Rack Gear from the teeth on Sub Wiper Arm assembly. This will allow you to change the positional relationship between the Sub Wiper Arm Assembly and Rack Unit. This procedure is best attempted in the EJECT position. Once this is done, check for smooth operation of the compartment by inserting a cassette, and pushing in, and down.

C. Installation Procedure

1. Bring loading mechanism to the STOP (Sub–load) position.
2. Confirm that the chassis is aligned properly for Alignment Condition as shown in Figure M44 and M45.
3. Put the Sub Wiper Arm (R) in it's full down position (Sub Wiper Arm should rest on plastic protrusion on the bottom of the right side plate).
4. Install the cassette compartment (without cassette holder) to chassis so that the rectangular marking (or slot) on the connection gear should be line up with first tooth of the Rack Gear as shown in Figure M62 and M63.

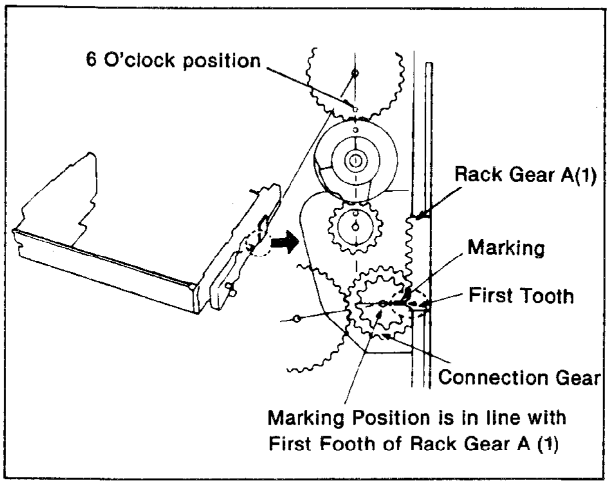

6 O'clock position
Rack Gear A(1)
Marking
First Tooth
Connection Gear
Marking Position is in line with
First Footh of Rack Gear A (1)

Figure M62

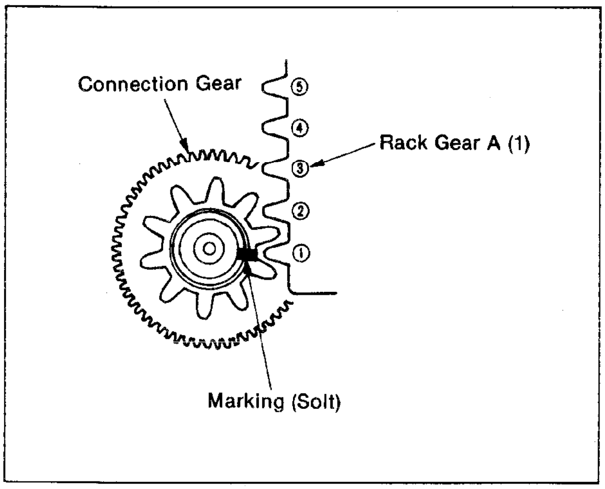

Connection Gear
⑤
④
Rack Gear A (1)
③
②
①
Marking (Solt)

Figure M63

5. Tighten the 4 screws (D) as shown in Figure M64.

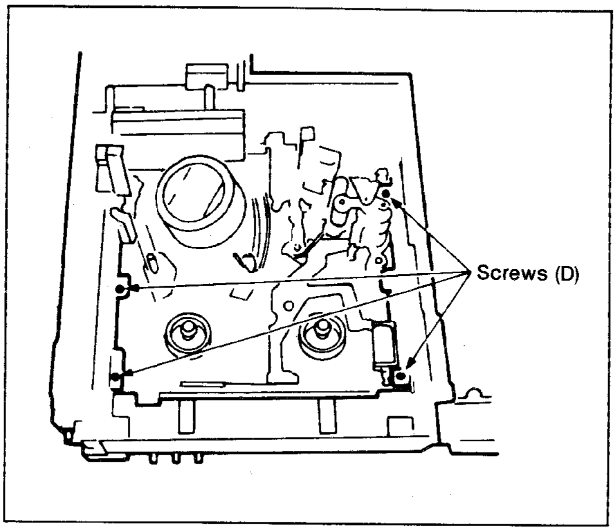


Figure M64

6. Manually move the loading mechanism toward the EJECT position.
7. Stop the manual eject procedure just before completion, so that the Sub Wiper Arms straight up. This position is also characterized by the channel guides (In the Wiper Arms) being directly under the cut outs on the top of the Cassette Compartment base(Figure M65).
8. Install the Cassette Holder Unit in the Cassette Compartment Base. The Cassette Holder should drop into place if the Sub Wiper Arms are portioned as called for in step 7.

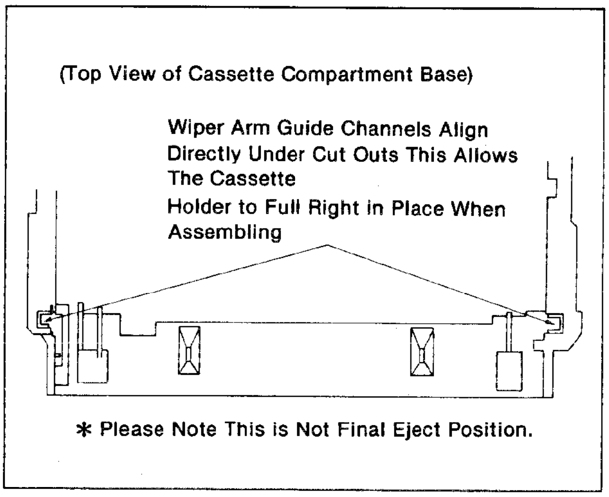

(Top View of Cassette Compartment Base)
Wiper Arm Guide Channels Align Directly Under Cut Outs This Allows The Cassette Holder to Full Right in Place When Assembling
* Please Note This is Not Final Eject Position.

Figure M65

*Note: For proper front loading, the guide pin on the opener lever should follow the upper track of the right side panel as shown in Figure M66.

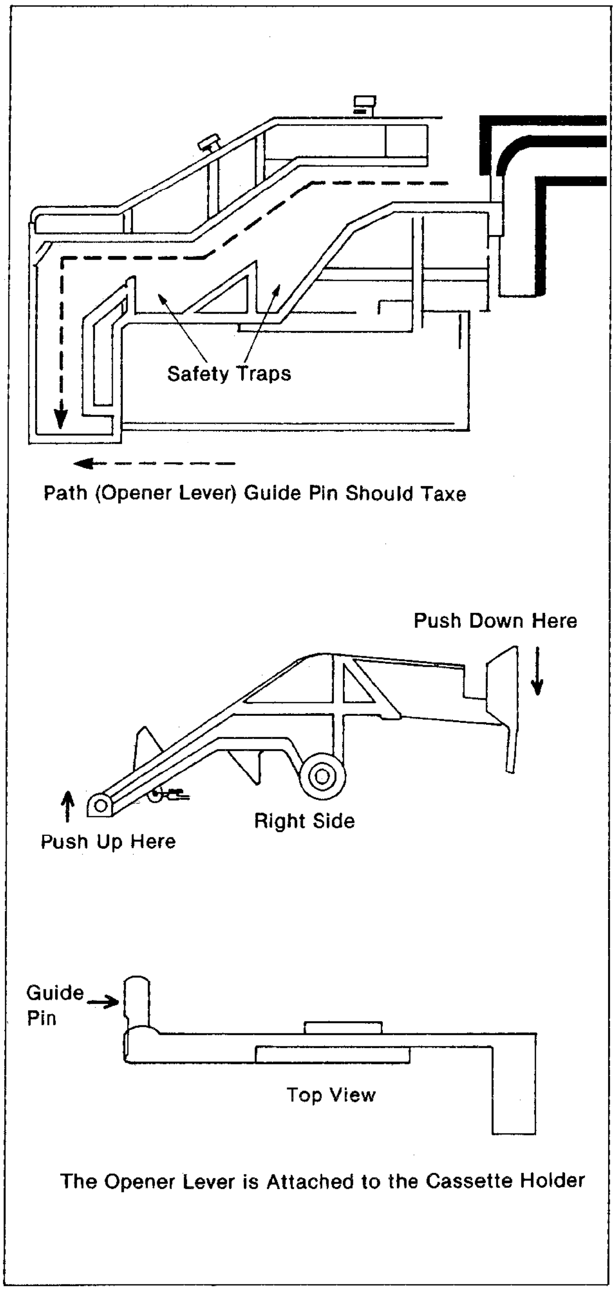

Safety Traps
Path (Opener Lever) Guide Pin Should Taxe
Push Down Here
Push Up Here
Right Side
Guide Pin
Top View
The Opener Lever is Attached to the Cassette Holder

Figure M66 Right Side Plate

9. Install the top plate on the Cassette Compartment Base and tighten the 2 screws (A) as shown in Figure M58.
10. Manually confirm that front loading and main loading run smoothly. Also confirmEJECT before power is applied.

ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorder.

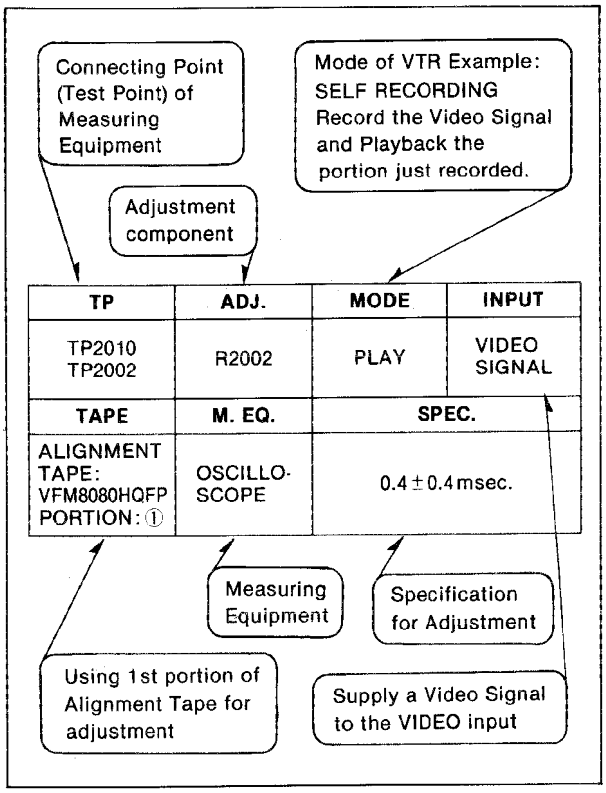
1. TEST & SERVICE EQUIPMENT

To perform the electrical adjustment completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001–50V
2. Dual–Trace Oscilloscope
   Voltage Range: 0.005–50V/div.
   Frequency Range: DC–20MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0–10MHz
4. Signal Generator (Sine wave)
   Frequency Range: 0–10MHz
5. Video Sweep Generator
   Frequency Range: 0–10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. Spectrum Analyzer
9. Video Signal Generator
10. VHS Alignment Tape (VFM8180HMDH)

2. ADJUSTMENT PROCEDURES

2-1. HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Record the Video Signal and Playback the portion just recorded.
Adjustment component
Measuring Equipment
Specification for Adjustment
Using 1st portion of Alignment Tape for adjustment
Supply a Video Signal to the VIDEO input

TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	PLAY	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE: VFM8080HQFP PORTION:①	OSCILLO-SCOPE	0.4±0.4msec.	

Figure E1

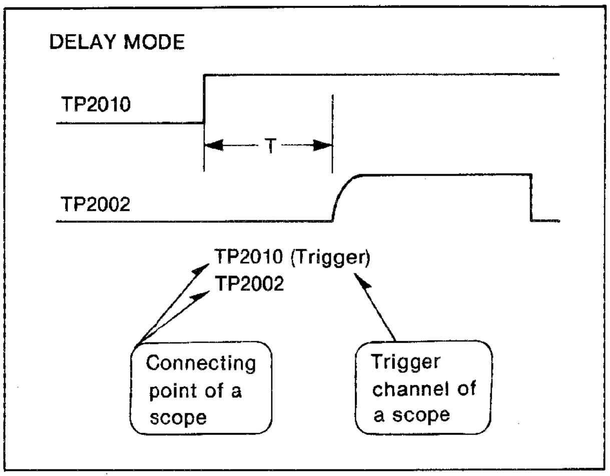

DELAY MODE
TP2010
T
TP2002
TP2010 (Trigger)
TP2002
Connecting point of a scope
Trigger channel of a scope

Figure E2

2-2. SERVO SECTION

2-2-1. TRACKING SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2003 (TP6501) TP2004 (TP6503)	VR6502	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION:②	OSCILLO-SCOPE	T=0.4±0.4msec.	

Note:
This adjustment should be performed only after completion of the tape interchangeability adjustment.

1. Adjust the Tracking VR on the Mode Select C.B.A. to the center fixed position.

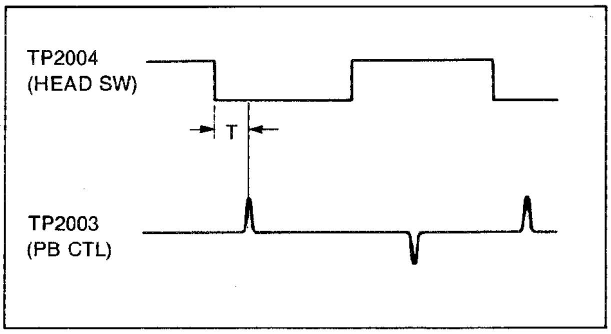

TP2004
(HEAD SW)
T
TP2003
(PB CTL)

Figure E3

2-2-2. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6503 VIDEO RF (FRONT PANEL)	VR2002	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION:②	OSCILLO-SCOPE	T1=6.5±0.5H T2=LESS THAN 10µsec.	

*Note:
This adjustment should be performed only after completion of the tape interchangeability adjustment.

1. Turn VR2002 clockwise till just before no drop–out between L CH output and R CH one and memorize position of VR2002. (Figure E4)
2. Turn VR2002 counter clockwise till just before no drop–out between L CH output and R CH one and memorize position of VR2002. (Figure E4)
3. Adjust VR2002 to the center position of step 1 and 2.
4. Supply a video signal to Video In.
5. Place the deck in REC PLAY mode.
6. Play back the just recorded portion on the AG–6810 or the other machine.
7. Confirm that the head switching position so that the falling edge of switching pulse becomes 6.5H +/– 0.5H before the V sync portion.
8. If the head switching position does not become 6.5 H +/– 0.5H then repeat step 1 to 3.

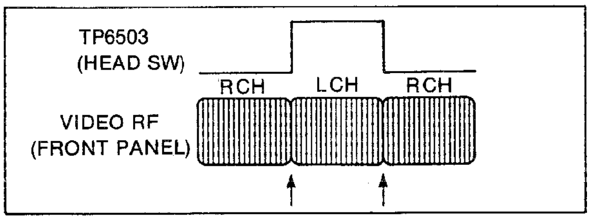


Figure E4

9. Change the triggering slope of the scope from "–" to "+" side, and confirm so that the difference between the rising and falling edges become less than 10 usec. (Figure E5)

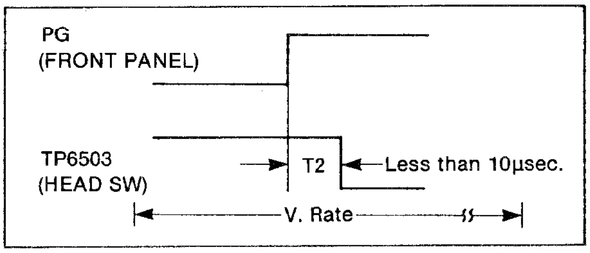


Figure E5

2-3. AUDIO SECTION

2-3-1. AUDIO INPUT PRE-AMP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4005 (NORMAL CH1) TP4006 (NORMAL CH2) TP4307 (Hi-Fi CH1) TP4308 (Hi-Fi CH2)	VR4001 (NORMAL CH1) VR4002 (NORMAL CH2) VR4302 (Hi-Fi CH1) VR4303 (Hi-Fi CH2)	STOP	1kHz, –8dBv AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	V.T.V.M.	–8dBv±0.2dB	

1. Set the Audio Level VRs on the front panel to the center fixed position and supply an audio signal to the NORM INPUT.

2-3-2. NORMAL AUDIO PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4005 (CH1) TP4006 (CH2)	VR4005 (CH1) VR4007 (CH2)	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION:③	OSCILLO-SCOPE	400Hz LEVEL=5kHz LEVEL	

1. Set the Dolby NR switch to off position.

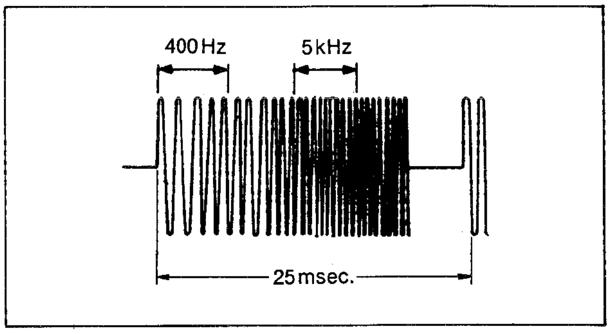


Figure E6

2-3-3. NORMAL AUDIO PLAYBACK GAIN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4005 (CH1) TP4006 (CH2)	VR4004 (CH1) VR4008 (CH2)	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ③	V.T.V.M.	$-6^{+0.2}_{-0}$dBv	

Note:
Before this adjustment, "AUDIO PLAYBACK FREQUENCY RESPONSE ADJUSTMENT" should be completed.

2-3-4. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
A/C HEAD	VR4009 (CH1) VR4010 (CH2)	REC PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK	V.T.V.M.	4.0±0.2Vrms	

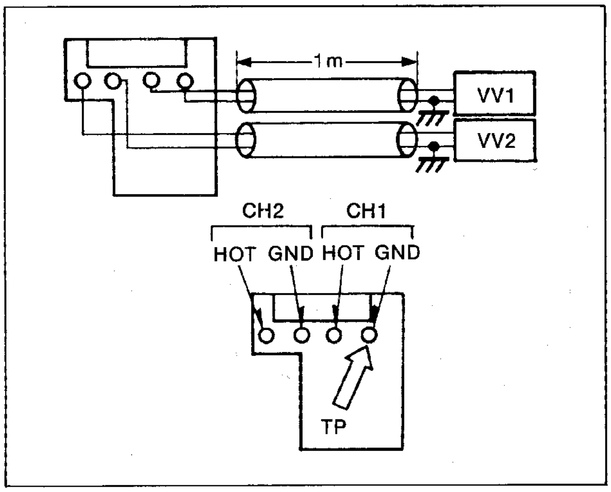


Figure E7

2-3-5. NORMAL AUDIO REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4001 TP4005 (CH1) TP4002 TP4006 (CH2)	VR4003 (CH1) VR4006 (CH2)	REC PLAY ↕ PLAY	1kHz, −8dBv AUDIO SIGNAL /Colour Bar Signal
TAPE	**M. EQ.**	**SPEC.**	
BLANK	V.T.V.M.		

1. Supply an audio signal to LINE IN.
2. Supply a video signal to VIDEO IN.
3. Place the deck in REC PLAY mode.
4. Adjust VR4003 so that the V.T.V.M. (2) level becomes 800mVrms then V.T.V.M. (1) level is determine at 0dB.
5. Play back the just recorded portion.
6. Read the deflection of V.T.V.M. (1).
7. Place the deck in REC PLAY mode.
8. Revise the VR4003 to deflection of V.T.V.M. (1) at the V.T.V.M. (2).
9. If the REC PLAY mode does not indicate PLAYBACK mode at V.T.V.M. (1) repeat steps 3 to 8 until the REC PLAY mode and PLAYBACK mode are the same.
10. CH2 adjustment procedures are the same as CH1 except the reference numbers of VR and TP.

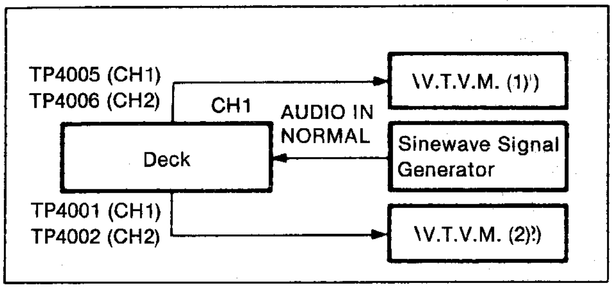


Figure E8

2-3-6. Hi-Fi AUDIO PLAYBACK HEAD SW SHIFT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4303 TP4306	VR4301	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ②	OSCILLO- SCOPE		

Note:
Adjust TRACKING VR (VR6501) so that envelope level becomes maximum.

1. Adjust VR4301 so that there is no drop-out portion between L-ch head output and R-ch one.

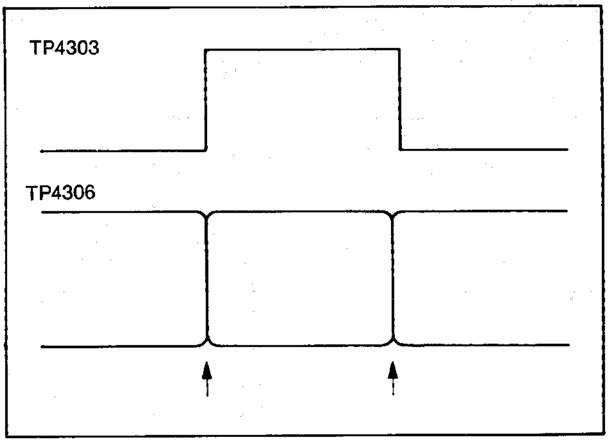


Figure E9

2-3-7. Hi-Fi AUDIO CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4304 (CH1) TP4305 (CH2)	VR4307 (CH1) VR4305 (CH2)	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	FREQUENCY COUNTER	1.4 MHz ± 10 kHz (CH1) 1.8 MHz ± 10 kHz (CH2)	

Note:
If signal level is too low to trigger frequency counter, adjust VR4310(CH1) and VR4308 (CH2) to clockwise.
When VR4310 or VR4308 are turned, "Hi-Fi AUDIO REC CURRENT ADJ." should be performed.

1. Connect the jumper wires between each AUDIO INPUT (Hi-Fi CH1, CH2 and NOR-CH1, CH2) and GND.

2-3-8. Hi-Fi AUDIO DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4304 (CH1) TP4305 (CH2)	VR4306 (CH1) VR4304 (CH2)	STOP	1 kHz, −8 dBv AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	SPECTRUM ANALYZER	fw = 100 kHz ± 5 kHz	

1. Factory and Legal Adjustment

1. Set the Audio Level VRs on the front panel to the center fixed position and supply an audio signal to Hi-Fi Audio Input.
2. Connect the spectrum analyzer to TP4304, and set the center frequency to 1.4MHz.
3. Adjust VR4306 so that the width of the "fw" portion becomes 100KHz +/− 5KHz.
4. Change the probe of spectrum analyzer from TP4304 to TP4305, and set the center frequency of spectrum analyzer to 1.8MHz.
5. Adjust VR4304 so that the width of the "fw" portion becomes 100K+/− 5KHz.

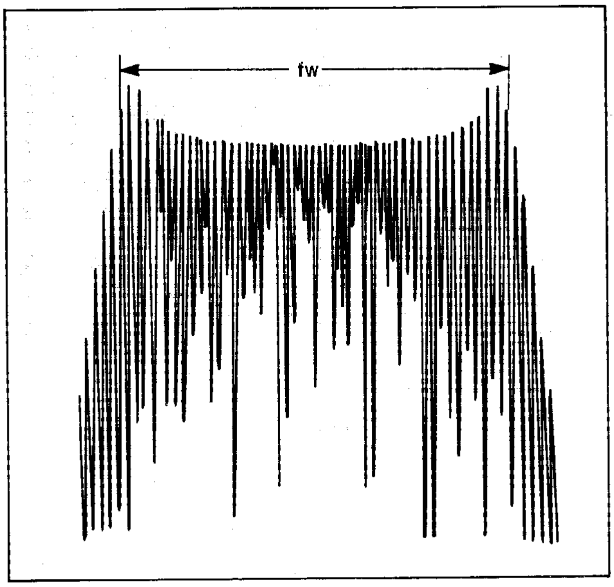


Figure E10

2-3-9. Hi-Fi AUDIO REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5501	VR4310 (CH1) VR4308 (CH2)	REC PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK	OSCILLO-SCOPE	150 ± 5 mV (CH1) 650 ± 5 mV (CH2)	

1. Turn the Hi-Fi SW on the Mode select C.B.A. to ON position.
2. Connect the jumper wires between Hi-Fi AUDIO IN (CH1, CH2) and GND.
3. Turn VR4308 fully counterclockwise.
4. Adjust VR4310 (CH1) so that the level becomes 150 +/− 5mVp-p.

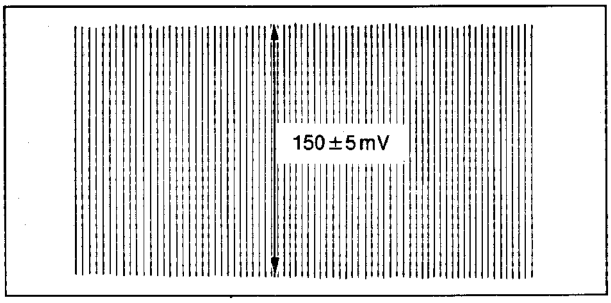


Figure E12

5. Adjust VR4308 (CH2) so that the level becomes 650mV +/− 5mVp-p.

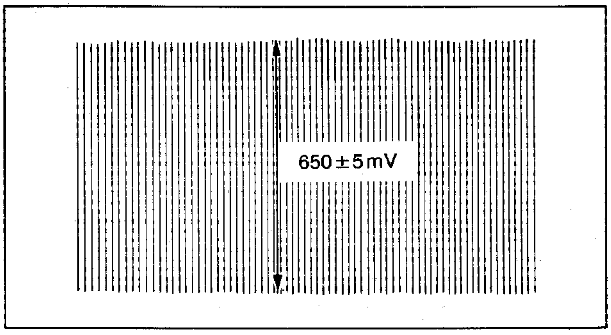


Figure E13

2-3-10. Hi-Fi AUDIO MUTING LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4307 (CH1) TP4308 (CH2)	VR4309	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ②	OSCILLO-SCOPE	A = 150 ± 2 mVp-p	

1. Adjust the Tracking VR so that envelope level at TP4306 becomes maximum.
2. Turn VR4309 slowly counterclockwise from solder side until the Hi-Fi Audio Signal at TP4307 is muted off.

3. Connect the scope to TP4308.
4. Adjust VR4309 so that the level of Hi-Fi Audio Signal becomes unmute.

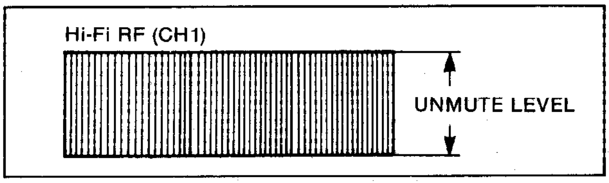


Figure E14

2-4. VIDEO SECTION

2-4-1. AGC LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3003	VR3003	STOP (E-E)	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	1.0±0.05Vp-p	

Note:
Connect the scope to TP3003 terminated by 75 ohms.

1. Turn the Terminate ON/OFF SW to on.
2. Set the AGC SW on the Mode select C.B.A. to ON position.

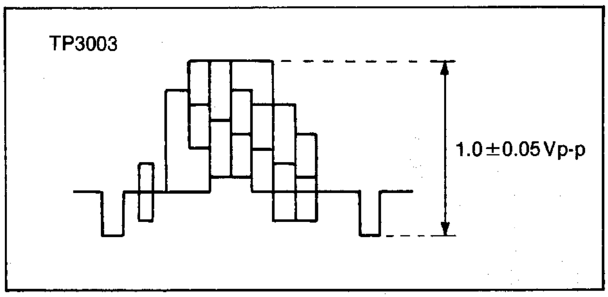


Figure E15

2-4-2. Y LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3003	VR3005	STOP (E-E)	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	1.0±0.05Vp-p	

Note:
Connect the scope to TP3003 terminated by 75 ohms.

1. Turn the AGC SW on the Mode select C.B.A. to OFF position.

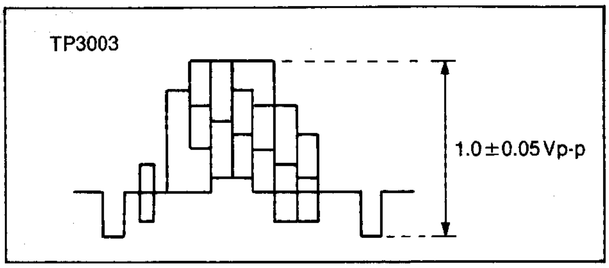


Figure E16

2-4-3. Y NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3001	VR3001	STOP (E-E)	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	LESS THAN 50mVp-p	

1. Set the AGC switch to ON position.

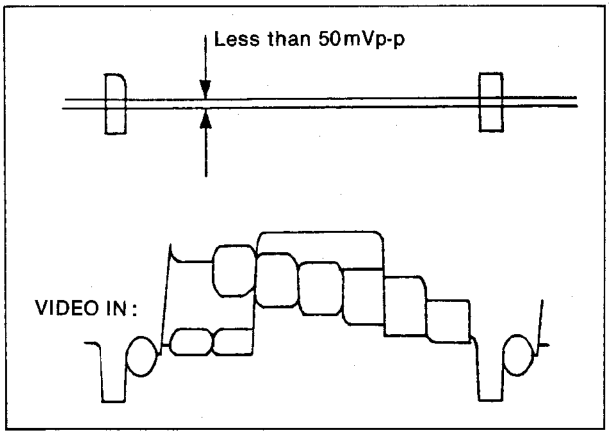


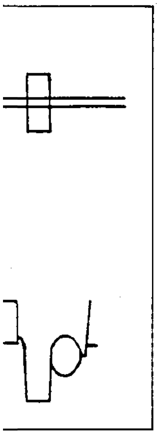
Figure E17

2-4-4. VIDEO REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5502 (HOT) TP5503 (GND)	VR5501 (REC-Y) VR5502 (REC-C)	REC PLAY	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK	OSCILLO-SCOPE	REC-C: 36±2mVp-p REC-Y: 150±5mVp-p	

1.0±0.05Vp-p

INPUT
COLOUR BAR SIGNAL
:C.
1 50mVp-p



TMENT

INPUT
COLOUR BAR SIGNAL
:C.
±2mVp-p ±5mVp-p

1. Connect the scope to TP5502 (HOT) and TP5503 (GND).
2. Turn VR5501 to eliminate the Y recording current.
3. Adjust VR5502 so that the cyan level is 36 +/− 2mVp−p.
4. Adjust VR5501 so that the Y recording current at sync tip portion is 150 +/− 5mVp−p.

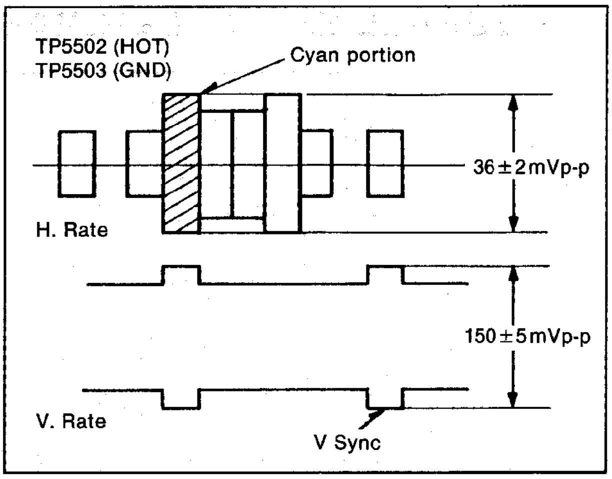
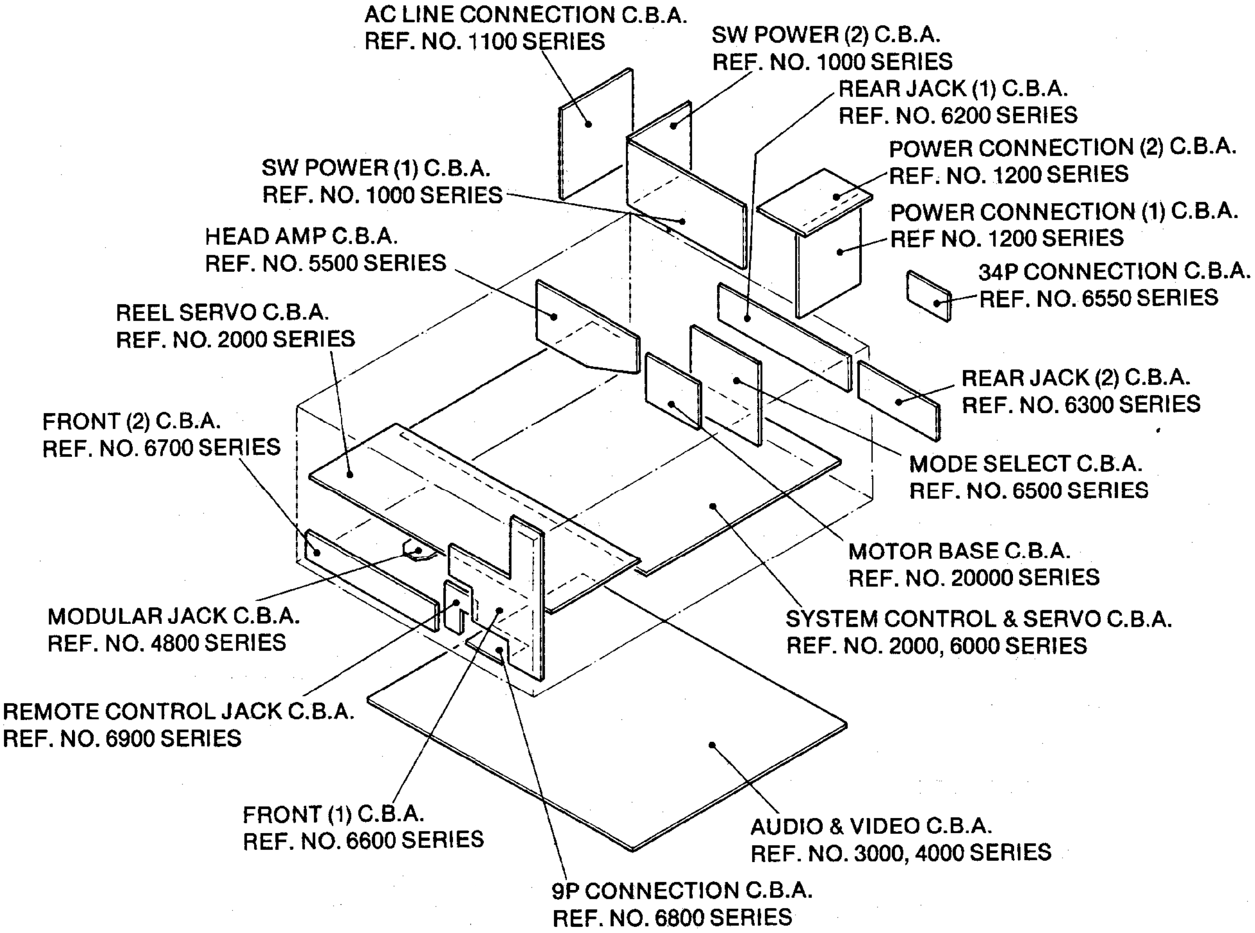
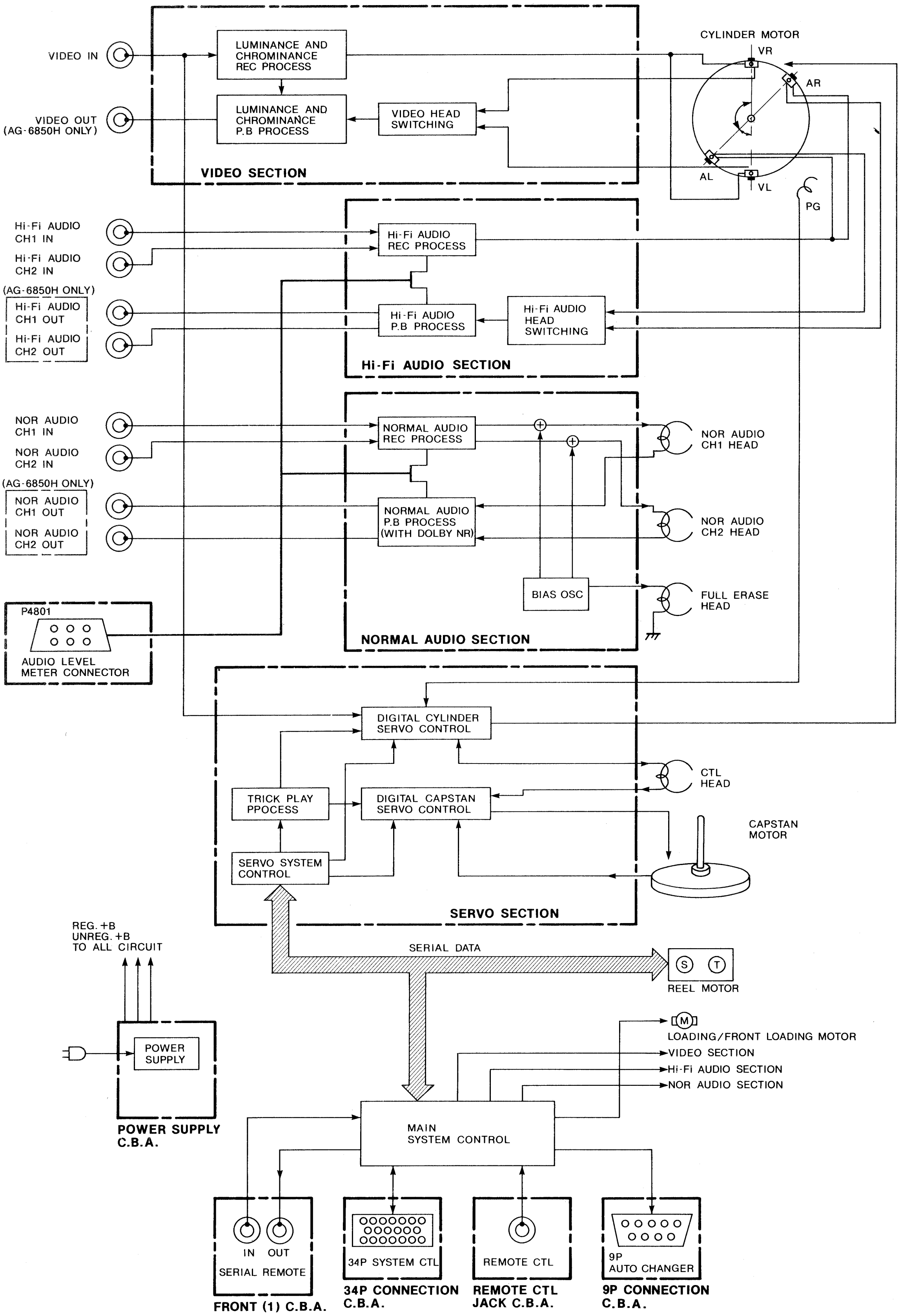

TP5502 (HOT)
TP5503 (GND)
Cyan portion
36±2mVp-p
H. Rate
150±5mVp-p
V. Rate
V Sync

Figure E18

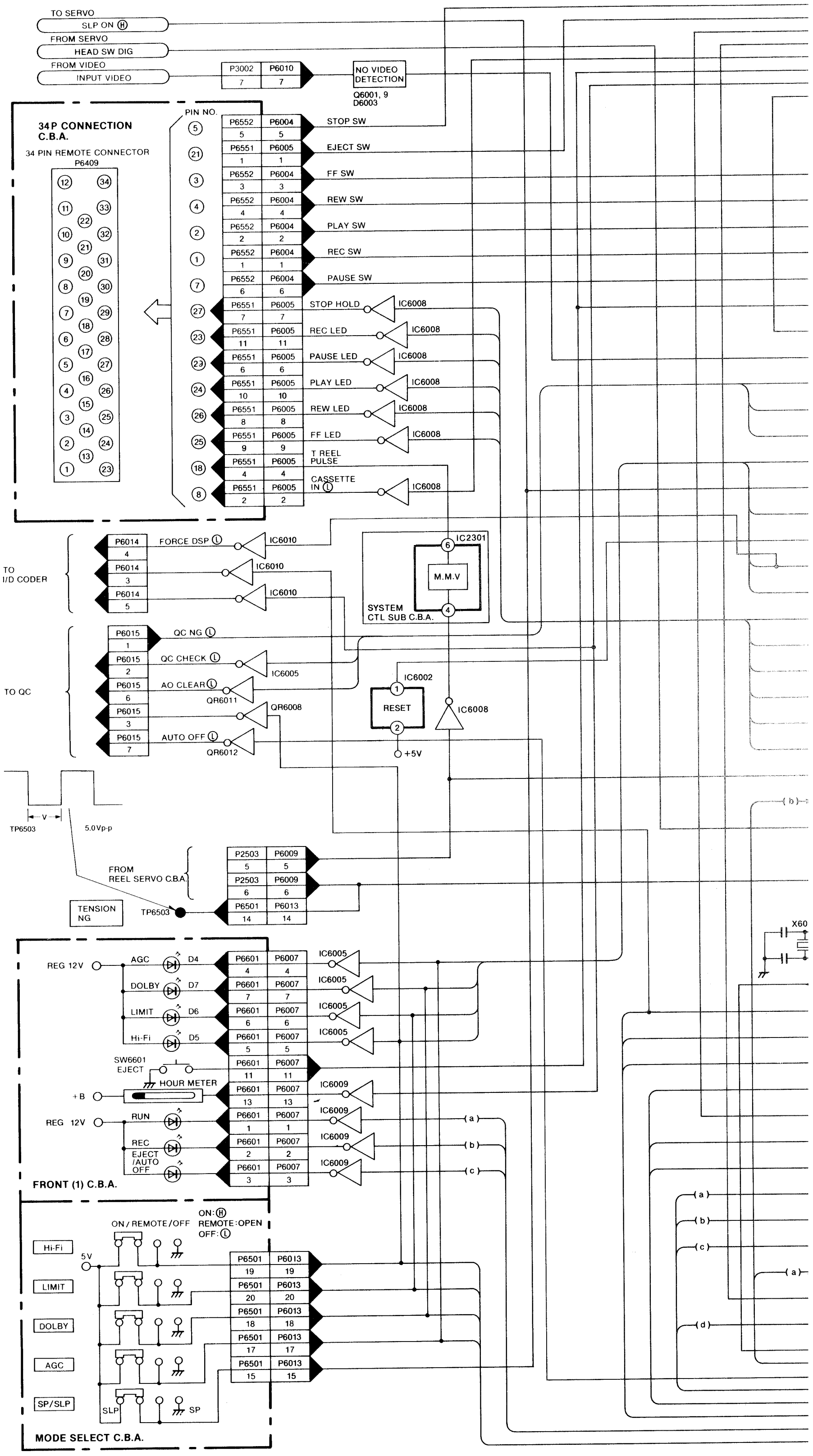
CIRCUIT BOARD LAYOUT

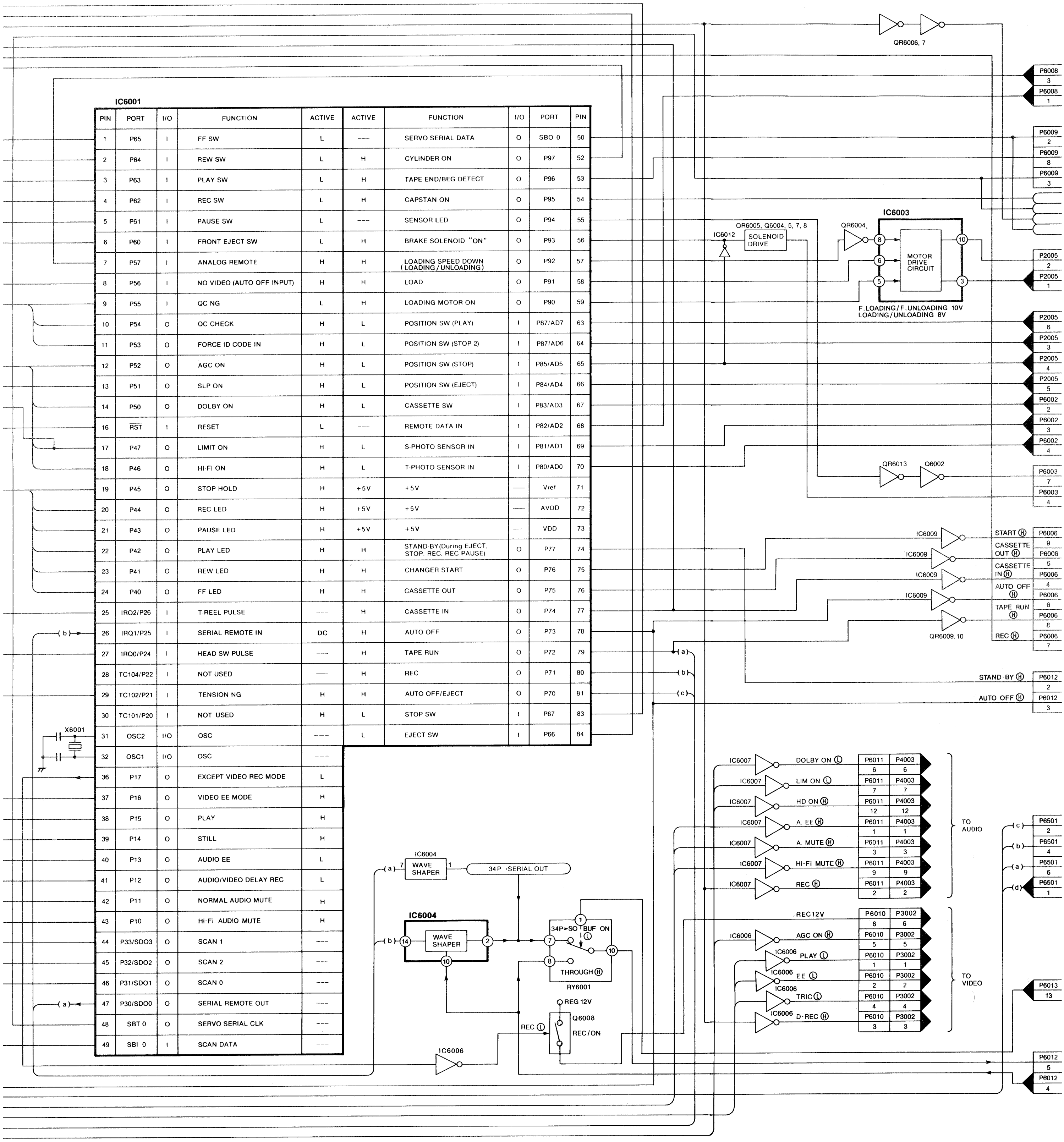

AC LINE CONNECTION C.B.A.
REF. NO. 1100 SERIES
SW POWER (2) C.B.A.
REF. NO. 1000 SERIES
REAR JACK (1) C.B.A.
REF. NO. 6200 SERIES
POWER CONNECTION (2) C.B.A.
REF. NO. 1200 SERIES
SW POWER (1) C.B.A.
REF. NO. 1000 SERIES
POWER CONNECTION (1) C.B.A.
REF NO. 1200 SERIES
HEAD AMP C.B.A.
REF. NO. 5500 SERIES
34P CONNECTION C.B.A.
REF. NO. 6550 SERIES
REEL SERVO C.B.A.
REF. NO. 2000 SERIES
REAR JACK (2) C.B.A.
REF. NO. 6300 SERIES
FRONT (2) C.B.A.
REF. NO. 6700 SERIES
MODE SELECT C.B.A.
REF. NO. 6500 SERIES
MOTOR BASE C.B.A.
REF. NO. 20000 SERIES
MODULAR JACK C.B.A.
REF. NO. 4800 SERIES
SYSTEM CONTROL & SERVO C.B.A.
REF. NO. 2000, 6000 SERIES
REMOTE CONTROL JACK C.B.A.
REF. NO. 6900 SERIES
FRONT (1) C.B.A.
REF. NO. 6600 SERIES
AUDIO & VIDEO C.B.A.
REF. NO. 3000, 4000 SERIES
9P CONNECTION C.B.A.
REF. NO. 6800 SERIES

OVERALL BLOCK DIAGRAM


VIDEO IN
VIDEO OUT (AG-6850H ONLY)
LUMINANCE AND CHROMINANCE REC PROCESS
LUMINANCE AND CHROMINANCE P.B PROCESS
VIDEO HEAD SWITCHING
VIDEO SECTION
CYLINDER MOTOR
VR
AR
AL
VL
PG
Hi-Fi AUDIO CH1 IN
Hi-Fi AUDIO CH2 IN
(AG-6850H ONLY)
Hi-Fi AUDIO CH1 OUT
Hi-Fi AUDIO CH2 OUT
Hi-Fi AUDIO REC PROCESS
Hi-Fi AUDIO P.B PROCESS
Hi-Fi AUDIO HEAD SWITCHING
Hi-Fi AUDIO SECTION
NOR AUDIO CH1 IN
NOR AUDIO CH2 IN
(AG-6850H ONLY)
NOR AUDIO CH1 OUT
NOR AUDIO CH2 OUT
NORMAL AUDIO REC PROCESS
NORMAL AUDIO P.B PROCESS (WITH DOLBY NR)
BIAS OSC
NOR AUDIO CH1 HEAD
NOR AUDIO CH2 HEAD
FULL ERASE HEAD
NORMAL AUDIO SECTION
P4801
AUDIO LEVEL METER CONNECTOR
DIGITAL CYLINDER SERVO CONTROL
TRICK PLAY PPOCESS
DIGITAL CAPSTAN SERVO CONTROL
SERVO SYSTEM CONTROL
CTL HEAD
CAPSTAN MOTOR
SERVO SECTION
REG. +B
UNREG. +B
TO ALL CIRCUIT
POWER SUPPLY
POWER SUPPLY C.B.A.
SERIAL DATA
S
T
REEL MOTOR
M
LOADING/FRONT LOADING MOTOR
VIDEO SECTION
Hi-Fi AUDIO SECTION
NOR AUDIO SECTION
MAIN SYSTEM CONTROL
IN
OUT
SERIAL REMOTE
FRONT (1) C.B.A.
34P SYSTEM CTL
34P CONNECTION C.B.A.
REMOTE CTL
REMOTE CTL JACK C.B.A.
9P AUTO CHANGER
9P CONNECTION C.B.A.

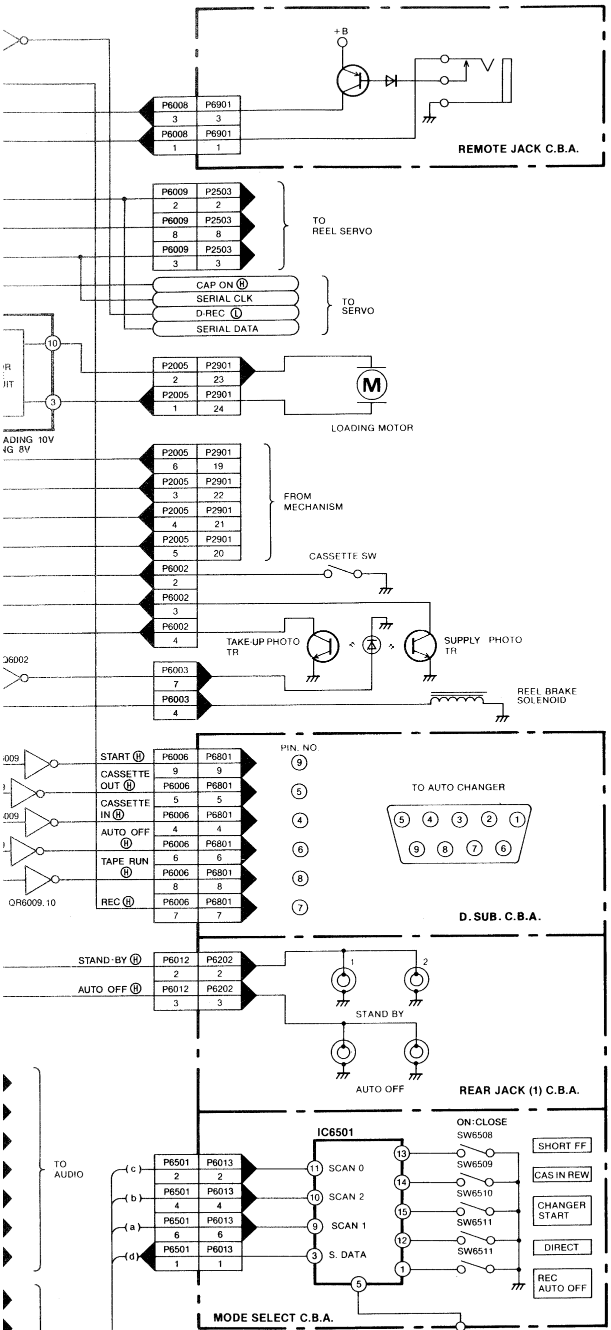
SYSTEM CONTROL BLOCK DIAGRAM

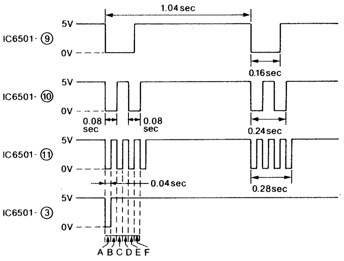

TO SERVO
SLP ON Ⓗ
FROM SERVO
HEAD SW DIG
FROM VIDEO
INPUT VIDEO
P3002
P6010
NO VIDEO DETECTION
Q6001, 9
D6003
34P CONNECTION C.B.A.
34 PIN REMOTE CONNECTOR
P6409
PIN NO.
STOP SW
EJECT SW
FF SW
REW SW
PLAY SW
REC SW
PAUSE SW
STOP HOLD
REC LED
PAUSE LED
PLAY LED
REW LED
FF LED
T REEL PULSE
CASSETTE IN Ⓛ
IC6008
P6552
P6551
P6004
P6005
TO I/D CODER
P6014
FORCE DSP Ⓛ
IC6010
SYSTEM CTL SUB C.B.A.
IC2301
M.M.V
TO QC
P6015
QC NG Ⓛ
QC CHECK Ⓛ
AO CLEAR Ⓛ
AUTO OFF Ⓛ
IC6005
QR6011
QR6008
QR6012
IC6002
RESET
+5V
TP6503
5.0Vp-p
FROM REEL SERVO C.B.A.
P2503
P6009
TENSION NG
P6501
P6013
REG 12V
AGC
DOLBY
LIMIT
Hi-Fi
D4
D7
D6
D5
P6601
P6007
SW6601 EJECT
HOUR METER
+B
RUN
REC
EJECT /AUTO OFF
IC6009
FRONT (1) C.B.A.
ON/REMOTE/OFF
ON:Ⓗ
REMOTE:OPEN
OFF:Ⓛ
5V
SP/SLP
SLP
SP
MODE SELECT C.B.A.
X60
(a)
(b)
(c)
(d)


QR6006, 7
P6008
3
P6008
1
P6009
2
P6009
8
P6009
3
IC6003
QR6005, Q6004, 5, 7, 8
IC6012
SOLENOID DRIVE
QR6004
8
6
5
10
3
MOTOR DRIVE CIRCUIT
F.LOADING/F.UNLOADING 10V
LOADING/UNLOADING 8V
P2005
2
P2005
1
P2005
6
P2005
3
P2005
4
P2005
5
P6002
2
P6002
3
P6002
4
QR6013
Q6002
P6003
7
P6003
4
IC6009
IC6009
IC6009
IC6009
QR6009. 10
START Ⓗ
CASSETTE OUT Ⓗ
CASSETTE IN Ⓗ
AUTO OFF Ⓗ
TAPE RUN Ⓗ
REC Ⓗ
P6006
9
P6006
5
P6006
4
P6006
6
P6006
8
P6006
7
STAND-BY Ⓗ
P6012
2
AUTO OFF Ⓗ
P6012
3
(a)
(b)
(c)
X6001
IC6007
DOLBY ON Ⓛ
P6011
P4003
6
6
IC6007
LIM ON Ⓛ
P6011
P4003
7
7
IC6007
HD ON Ⓗ
P6011
P4003
12
12
IC6007
A. EE Ⓗ
P6011
P4003
1
1
IC6007
A. MUTE Ⓗ
P6011
P4003
3
3
IC6007
Hi-Fi MUTE Ⓗ
P6011
P4003
9
9
IC6007
REC Ⓗ
P6011
P4003
2
2
TO AUDIO
.REC12V
P6010
P3002
6
6
IC6006
AGC ON Ⓗ
P6010
P3002
5
5
IC6006
PLAY Ⓛ
P6010
P3002
1
1
IC6006
EE Ⓛ
P6010
P3002
2
2
IC6006
TRIC Ⓛ
P6010
P3002
4
4
IC6006
D-REC Ⓗ
P6010
P3002
3
3
TO VIDEO
(c)
P6501
2
(b)
P6501
4
(a)
P6501
6
(d)
P6501
1
P6013
13
P6012
5
P6012
4
IC6004
(a)
7
WAVE SHAPER
1
34P→SERIAL OUT
IC6004
(b)
14
WAVE SHAPER
2
10
1
34P►SO
BUF ON
Ⓛ
7
8
10
THROUGH Ⓗ
RY6001
REG 12V
Q6008
REC Ⓛ
REC/ON
IC6006
(b)
(a)

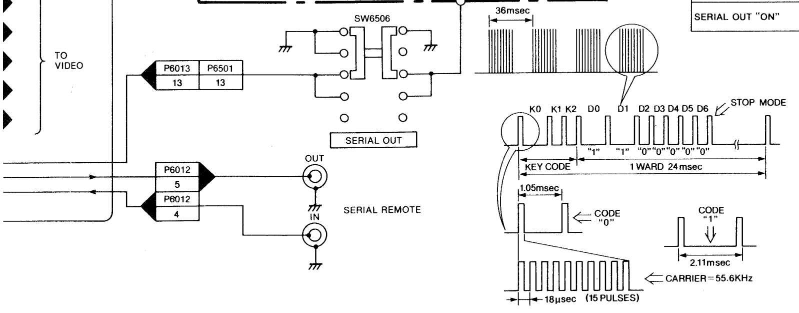
IC6001

PIN	PORT	I/O	FUNCTION	ACTIVE	ACTIVE	FUNCTION	I/O	PORT	PIN
1	P65	I	FF SW	L	---	SERVO SERIAL DATA	O	SBO 0	50
2	P64	I	REW SW	L	H	CYLINDER ON	O	P97	52
3	P63	I	PLAY SW	L	H	TAPE END/BEG DETECT	O	P96	53
4	P62	I	REC SW	L	H	CAPSTAN ON	O	P95	54
5	P61	I	PAUSE SW	L	---	SENSOR LED	O	P94	55
6	P60	I	FRONT EJECT SW	L	H	BRAKE SOLENOID "ON"	O	P93	56
7	P57	I	ANALOG REMOTE	H	H	LOADING SPEED DOWN (LOADING/UNLOADING)	O	P92	57
8	P56	I	NO VIDEO (AUTO OFF INPUT)	H	H	LOAD	O	P91	58
9	P55	I	QC NG	L	H	LOADING MOTOR ON	O	P90	59
10	P54	O	QC CHECK	H	L	POSITION SW (PLAY)	I	P87/AD7	63
11	P53	O	FORCE ID CODE IN	H	L	POSITION SW (STOP 2)	I	P87/AD6	64
12	P52	O	AGC ON	H	L	POSITION SW (STOP)	I	P85/AD5	65
13	P51	O	SLP ON	H	L	POSITION SW (EJECT)	I	P84/AD4	66
14	P50	O	DOLBY ON	H	L	CASSETTE SW	I	P83/AD3	67
16	$\overline{\text{RST}}$	I	RESET	L	---	REMOTE DATA IN	I	P82/AD2	68
17	P47	O	LIMIT ON	H	L	S-PHOTO SENSOR IN	I	P81/AD1	69
18	P46	O	Hi-Fi ON	H	L	T-PHOTO SENSOR IN	I	P80/AD0	70
19	P45	O	STOP HOLD	H	+5V	+5V	—	Vref	71
20	P44	O	REC LED	H	+5V	+5V	—	AVDD	72
21	P43	O	PAUSE LED	H	+5V	+5V	—	VDD	73
22	P42	O	PLAY LED	H	H	STAND-BY(During EJECT, STOP, REC, REC PAUSE)	O	P77	74
23	P41	O	REW LED	H	H	CHANGER START	O	P76	75
24	P40	O	FF LED	H	H	CASSETTE OUT	O	P75	76
25	IRQ2/P26	I	T-REEL PULSE	---	H	CASSETTE IN	O	P74	77
26	IRQ1/P25	I	SERIAL REMOTE IN	DC	H	AUTO OFF	O	P73	78
27	IRQ0/P24	I	HEAD SW PULSE	---	H	TAPE RUN	O	P72	79
28	TC104/P22	I	NOT USED	—	H	REC	O	P71	80
29	TC102/P21	I	TENSION NG	H	H	AUTO OFF/EJECT	O	P70	81
30	TC101/P20	I	NOT USED	H	L	STOP SW	I	P67	83
31	OSC2	I/O	OSC	---	L	EJECT SW	I	P66	84
32	OSC1	I/O	OSC	---					
36	P17	O	EXCEPT VIDEO REC MODE	L					
37	P16	O	VIDEO EE MODE	H					
38	P15	O	PLAY	H					
39	P14	O	STILL	H					
40	P13	O	AUDIO EE	L					
41	P12	O	AUDIO/VIDEO DELAY REC	L					
42	P11	O	NORMAL AUDIO MUTE	H					
43	P10	O	Hi-Fi AUDIO MUTE	H					
44	P33/SDO3	O	SCAN 1	---					
45	P32/SDO2	O	SCAN 2	---					
46	P31/SDO1	O	SCAN 0	---					
47	P30/SDO0	O	SERIAL REMOTE OUT	---					
48	SBT 0	O	SERVO SERIAL CLK	---					
49	SBI 0	I	SCAN DATA	---					


+B
P6008 P6901 3 3
P6008 P6901 1 1
REMOTE JACK C.B.A.
P6009 P2503 2 2
P6009 P2503 8 8
P6009 P2503 3 3
TO REEL SERVO
CAP ON Ⓗ
SERIAL CLK
D-REC Ⓛ
SERIAL DATA
TO SERVO
⑩
③
P2005 P2901 2 23
P2005 P2901 1 24
M
LOADING MOTOR
ADING 10V
IG 8V
P2005 P2901 6 19
P2005 P2901 3 22
P2005 P2901 4 21
P2005 P2901 5 20
FROM MECHANISM
CASSETTE SW
P6002 2
P6002 3
P6002 4
TAKE-UP PHOTO TR
SUPPLY PHOTO TR
P6003 7
P6003 4
REEL BRAKE SOLENOID
QR6009, 10
START Ⓗ
CASSETTE OUT Ⓗ
CASSETTE IN Ⓗ
AUTO OFF Ⓗ
TAPE RUN Ⓗ
REC Ⓗ
P6006 P6801 9 9
P6006 P6801 5 5
P6006 P6801 4 4
P6006 P6801 6 6
P6006 P6801 8 8
P6006 P6801 7 7
PIN. NO
⑨ ⑤ ④ ⑥ ⑧ ⑦
TO AUTO CHANGER
⑤ ④ ③ ② ①
⑨ ⑧ ⑦ ⑥
D. SUB. C.B.A.
STAND-BY Ⓗ
AUTO OFF Ⓗ
P6012 P6202 2 2
P6012 P6202 3 3
STAND BY
AUTO OFF
REAR JACK (1) C.B.A.
TO AUDIO
(c) (b) (a) (d)
P6501 P6013 2 2
P6501 P6013 4 4
P6501 P6013 6 6
P6501 P6013 1 1
IC6501
⑪ SCAN 0
⑩ SCAN 2
⑨ SCAN 1
③ S. DATA
⑬ ⑭ ⑮ ⑫ ① ⑤
ON:CLOSE
SW6508
SW6509
SW6510
SW6511
SW6511
SHORT FF
CAS IN REW
CHANGER START
DIRECT
REC AUTO OFF
MODE SELECT C.B.A.


1.04sec
5V
0V
IC6501-⑨
0.16sec
IC6501-⑩
0.08 sec
0.08 sec
0.24sec
IC6501-⑪
0.04sec
0.28sec
IC6501-③
A B C D E F

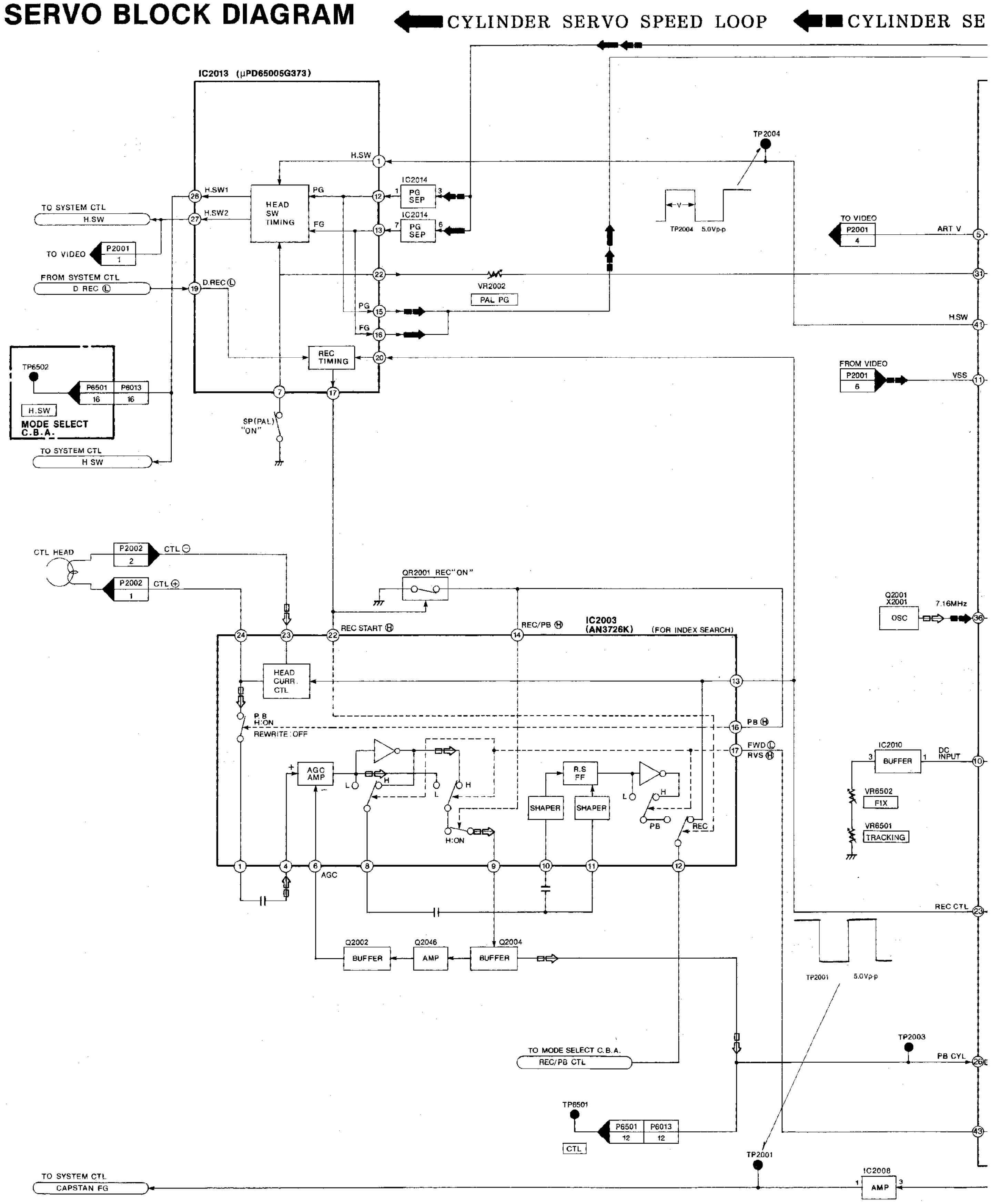
PERIOD / CONDITION	A	B	C	D	E	F
SHORT FF SW "ON"	L	H	H	H	H	H
CAS IN REW SW "ON"	H	L	H	H	H	H
CHANGER START SW"ON"	H	H	L	H	H	H
DIRECT SW "ON"	H	H	H	L	H	H
REC AUTO OFF SW "ON"	H	H	H	H	H	H
SERIAL OUT "ON"	H	H	H	H	H	L

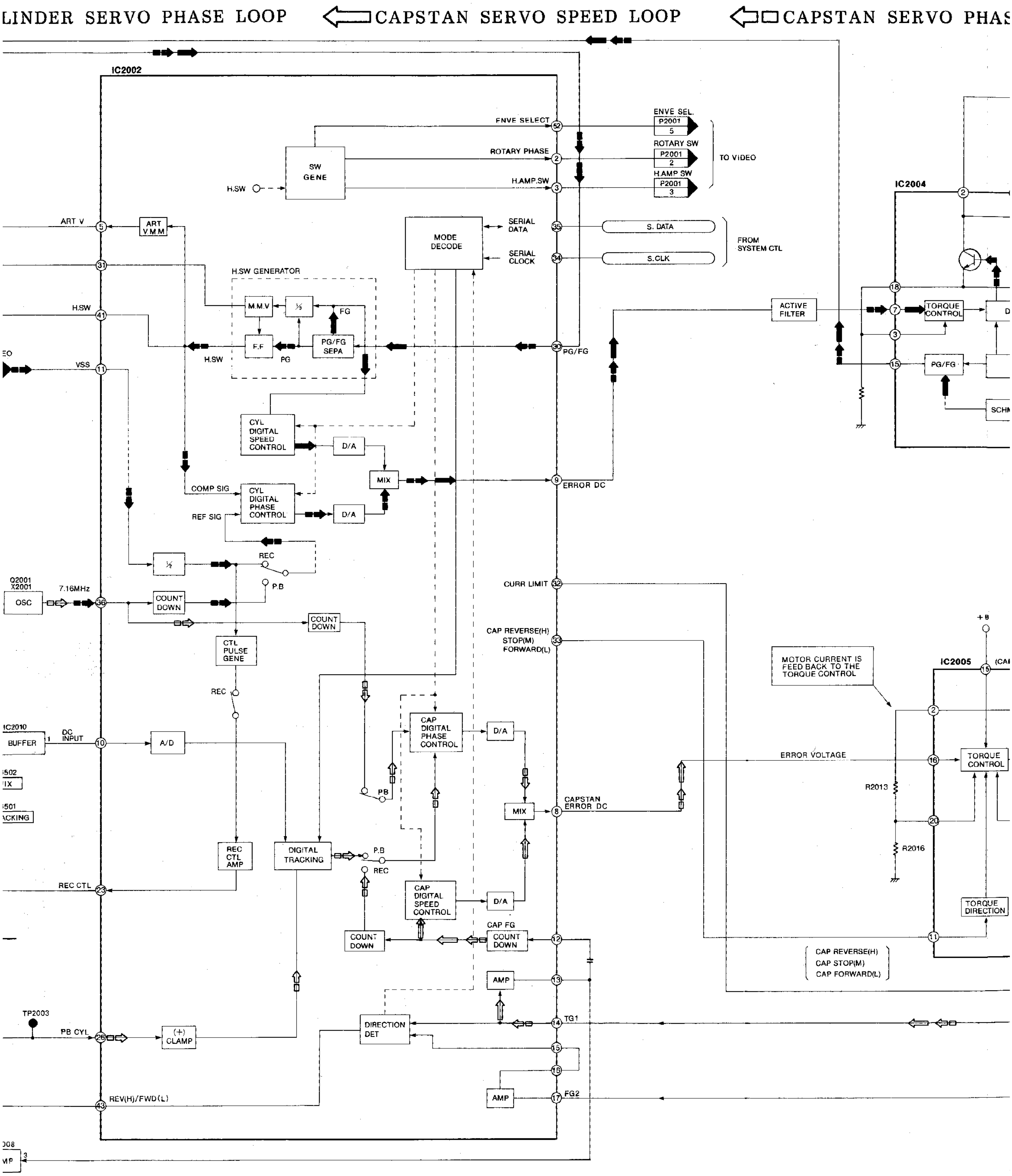

TO VIDEO
SW6506
P6013 P6501 13 13
SERIAL OUT
P6012 5
P6012 4
OUT
IN
SERIAL REMOTE
36msec
K0 K1 K2 D0 D1 D2 D3 D4 D5 D6
STOP MODE
"1" "1" "0" "0" "0" "0" "0"
KEY CODE
1WARD 24msec
1.05msec
CODE "0"
CODE "1"
2.11msec
CARRIER=55.6KHz
18μsec (15 PULSES)

DATA CODE CHART

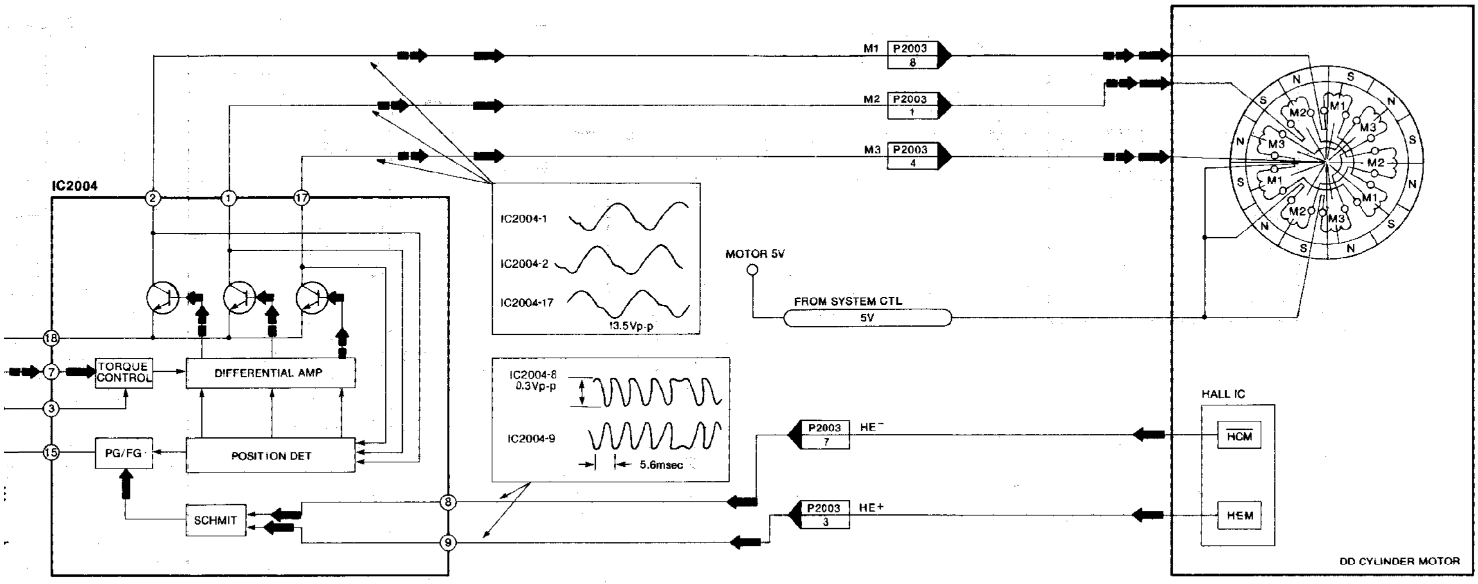
	D0	D1	D2	D3	D4	D5	D6
STOP	1	1	0	0	0	0	0
PLAY	0	0	1	1	0	0	0
REC/PLAY	0	0	1	1	0	1	1
PAUSE	1	0	1	1	0	0	0
F.F	0	1	1	0	0	0	0
REW	1	1	1	0	0	0	0
EJECT	1	0	0	0	1	0	0
REC PAUSE	1	0	1	1	0	1	1
AGC ON	1	0	1	0	1	0	0
AGC OFF	0	1	0	1	1	0	0
LIMIT ON	0	1	1	0	1	0	0
LIMIT OFF	1	1	0	1	1	0	0
Hi-Fi ON	1	1	1	0	1	0	0
Hi-Fi OFF	0	0	1	1	1	0	0
DOLBY ON	0	0	0	1	1	0	0
DOLBY OFF	1	0	1	1	1	0	0
START	1	1	0	0	1	0	0

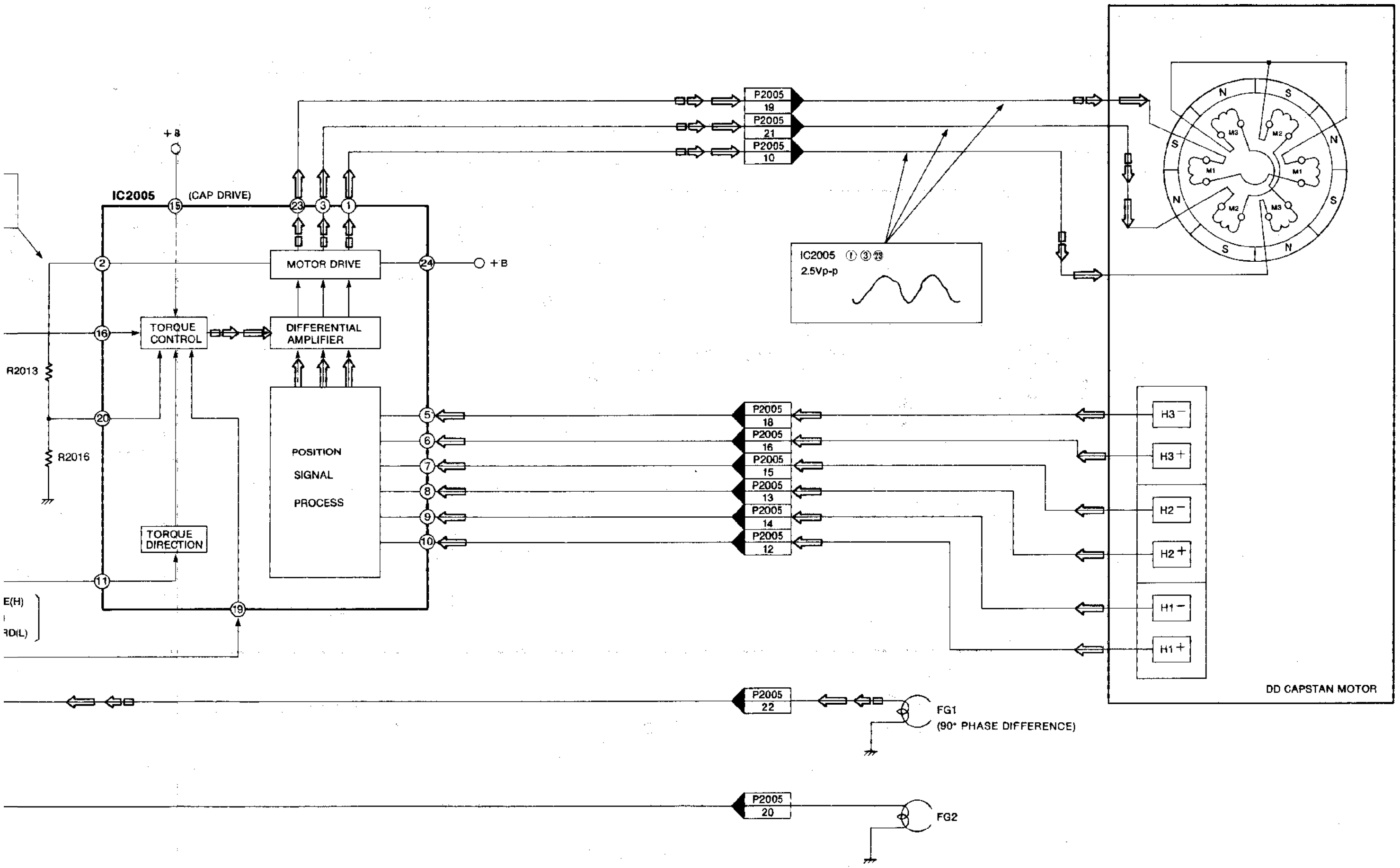
SERVO BLOCK DIAGRAM


CYLINDER SERVO SPEED LOOP
CYLINDER SE
IC2013 (μPD65005G373)
H.SW
HEAD SW TIMING
PG
FG
IC2014
PG SEP
H.SW1
H.SW2
TO SYSTEM CTL
H.SW
TO VIDEO
P2001
1
FROM SYSTEM CTL
D REC Ⓛ
D.REC Ⓛ
REC TIMING
TP6502
P6501
P6013
16
H.SW
MODE SELECT C.B.A.
SP(PAL) "ON"
TO SYSTEM CTL
H SW
TP2004
TP2004 5.0Vp-p
V
VR2002
PAL PG
TO VIDEO
P2001
4
ART V
H.SW
FROM VIDEO
P2001
6
VSS
CTL HEAD
P2002
2
CTL ⊖
P2002
1
CTL ⊕
QR2001 REC "ON"
REC START Ⓗ
REC/PB Ⓗ
IC2003 (AN3726K)
(FOR INDEX SEARCH)
HEAD CURR. CTL
P.B H:ON
REWRITE : OFF
PB Ⓗ
FWD Ⓛ
RVS Ⓗ
AGC AMP
R.S FF
SHAPER
SHAPER
L
H
H:ON
PB
REC
AGC
Q2002
BUFFER
Q2046
AMP
Q2004
BUFFER
Q2001
X2001
OSC
7.16MHz
IC2010
BUFFER
DC INPUT
VR6502
FIX
VR6501
TRACKING
REC CTL
TP2001
5.0Vp-p
TP2003
PB CYL
TO MODE SELECT C.B.A.
REC/PB CTL
TP6501
P6501
P6013
12
CTL
TP2001
TO SYSTEM CTL
CAPSTAN FG
IC2008
AMP

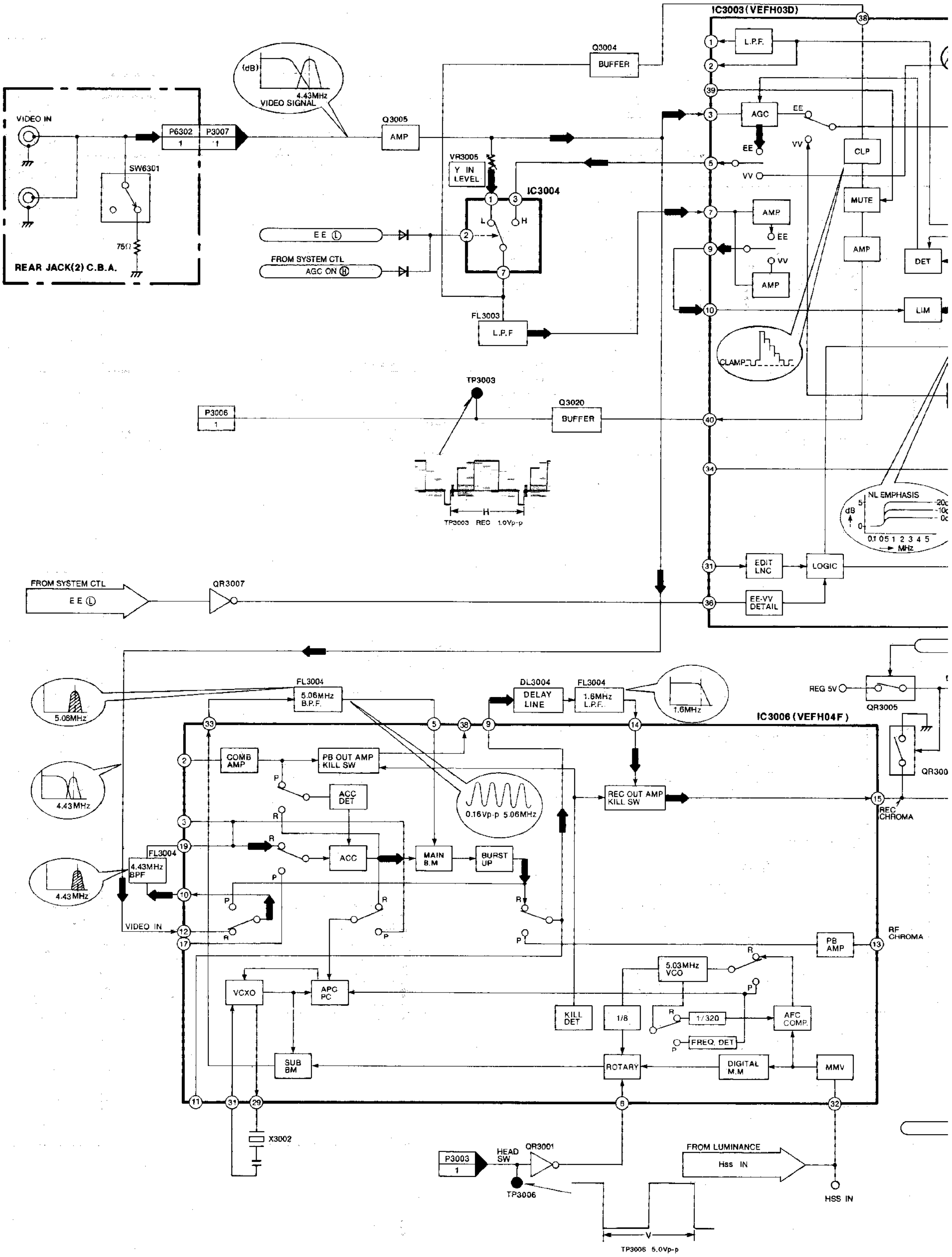

LINDER SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHAS
IC2002
ENVE SELECT
ENVE SEL.
P2001
5
ROTARY PHASE
ROTARY SW
P2001
2
H.AMP.SW
H.AMP SW
P2001
3
TO VIDEO
SW
GENE
H.SW
ART V
ART
V.M.M
MODE
DECODE
SERIAL
DATA
SERIAL
CLOCK
S. DATA
S.CLK
FROM
SYSTEM CTL
H.SW GENERATOR
M.M.V
½
FG
F.F
PG/FG
SEPA
H.SW
PG
PG/FG
EO
VSS
CYL
DIGITAL
SPEED
CONTROL
D/A
MIX
ERROR DC
COMP SIG
CYL
DIGITAL
PHASE
CONTROL
REF SIG
D/A
ACTIVE
FILTER
IC2004
TORQUE
CONTROL
PG/FG
SCH
½
REC
P.B
Q2001
X2001
7.16MHz
OSC
COUNT
DOWN
COUNT
DOWN
CTL
PULSE
GENE
REC
CURR LIMIT
CAP REVERSE(H)
STOP(M)
FORWARD(L)
MOTOR CURRENT IS
FEED BACK TO THE
TORQUE CONTROL
+B
IC2005
IC2010
BUFFER
DC
INPUT
A/D
CAP
DIGITAL
PHASE
CONTROL
D/A
ERROR VOLTAGE
TORQUE
CONTROL
R2013
PB
MIX
CAPSTAN
ERROR DC
R2016
502
IX
501
CKING
REC
CTL
AMP
DIGITAL
TRACKING
P.B
REC
REC CTL
CAP
DIGITAL
SPEED
CONTROL
D/A
TORQUE
DIRECTION
CAP FG
COUNT
DOWN
COUNT
DOWN
CAP REVERSE(H)
CAP STOP(M)
CAP FORWARD(L)
AMP
TP2003
PB CYL
(+)
CLAMP
DIRECTION
DET
TG1
AMP
FG2
REV(H)/FWD(L)
008
MP
52
2
3
5
35
34
31
41
30
11
9
36
32
33
10
8
23
12
13
14
15
16
17
26
43
18
7
3
15
2
15
2
16
20
11

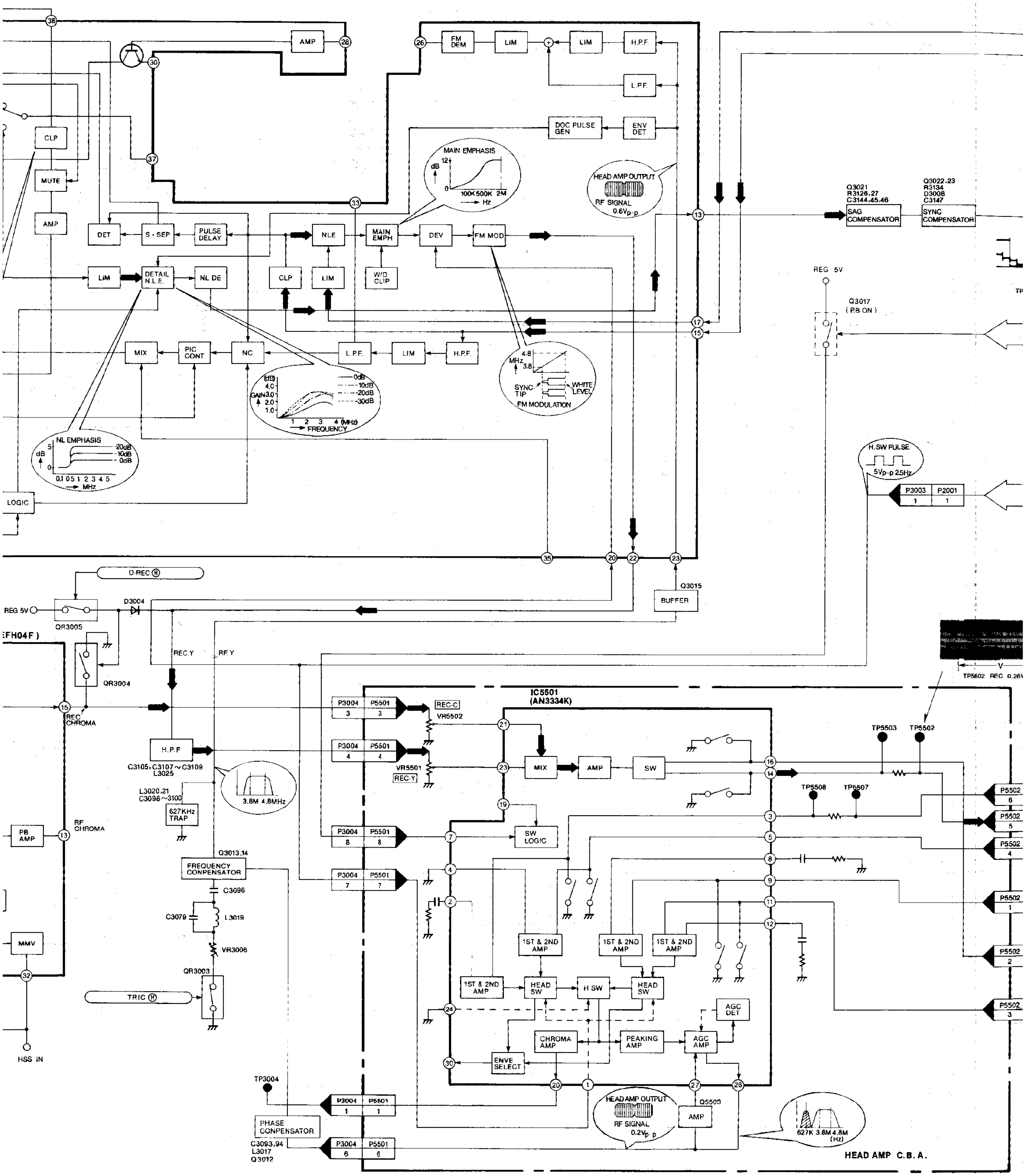
N SERVO PHASE LOOP

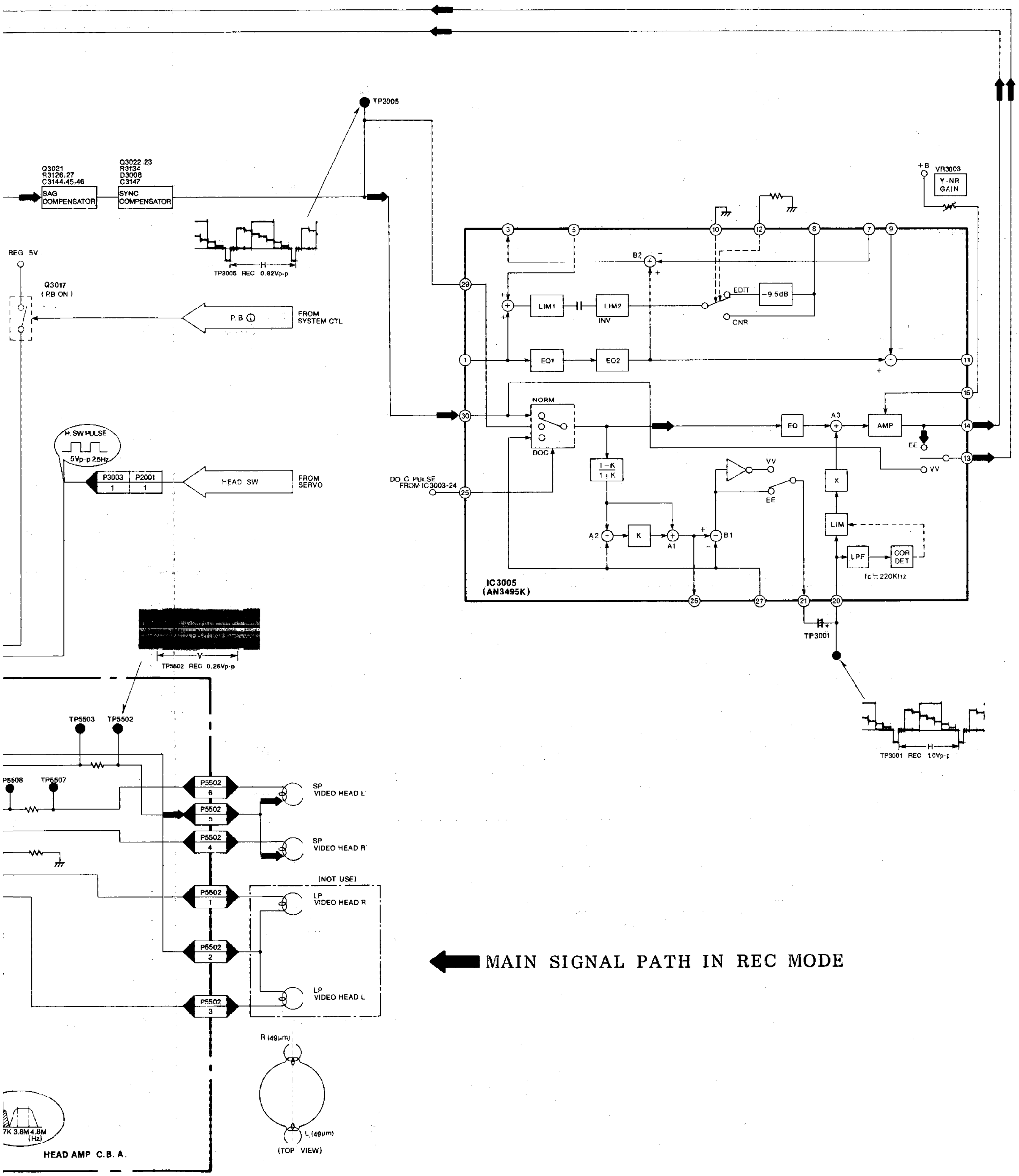

IC2004
M1
P2003
8
M2
P2003
1
M3
P2003
4
2
1
17
18
7
3
15
TORQUE CONTROL
DIFFERENTIAL AMP
PG/FG
POSITION DET
SCHMIT
8
9
IC2004-1
IC2004-2
IC2004-17
13.5Vp-p
IC2004-8
0.3Vp-p
IC2004-9
5.6msec
MOTOR 5V
FROM SYSTEM CTL
5V
HALL IC
P2003
7
HE⁻
P2003
3
HE+
HCM
HEM
N
S
M1
M2
M3
DD CYLINDER MOTOR


+B
IC2005
15
(CAP DRIVE)
23
3
1
2
24
+B
MOTOR DRIVE
16
TORQUE CONTROL
DIFFERENTIAL AMPLIFIER
R2013
20
R2016
POSITION SIGNAL PROCESS
5
6
7
8
9
10
TORQUE DIRECTION
11
19
E(H)
RD(L)
P2005
19
P2005
21
P2005
10
IC2005 ① ③ ㉓
2.5Vp-p
P2005
18
P2005
16
P2005
15
P2005
13
P2005
14
P2005
12
H3⁻
H3+
H2⁻
H2+
H1⁻
H1+
N
S
M1
M2
M3
DD CAPSTAN MOTOR
P2005
22
FG1
(90° PHASE DIFFERENCE)
P2005
20
FG2

VIDEO BLOCK DIAGRAM


IC3003 (VEFH03D)
Q3004
BUFFER
L.P.F.
(dB)
4.43MHz
VIDEO SIGNAL
VIDEO IN
P6302
P3007
SW6301
75Ω
REAR JACK(2) C.B.A.
Q3005
AMP
VR3005
Y IN LEVEL
IC3004
EE Ⓛ
FROM SYSTEM CTL
AGC ON Ⓗ
FL3003
L.P.F
AGC
EE
VV
CLP
MUTE
AMP
DET
LIM
CLAMP
TP3003
Q3020
BUFFER
P3006
TP3003 REC 1.0Vp-p
H
NL EMPHASIS
dB
0.1 0.5 1 2 3 4 5
MHz
EDIT LNC
LOGIC
EE-VV DETAIL
FROM SYSTEM CTL
EE Ⓛ
QR3007
FL3004
5.06MHz B.P.F.
5.06MHz
DL3004
DELAY LINE
FL3004
1.6MHz L.P.F.
1.6MHz
REG 5V
QR3005
IC3006 (VEFH04F)
COMB AMP
PB OUT AMP KILL SW
ACC DET
0.16Vp-p 5.06MHz
REC OUT AMP KILL SW
REC CHROMA
4.43MHz
FL3004
4.43MHz BPF
ACC
MAIN B.M
BURST UP
VIDEO IN
4.43MHz
R
P
PB AMP
RF CHROMA
5.03MHz VCO
VCXO
APC PC
KILL DET
1/8
1/320
AFC COMP.
FREQ. DET
SUB BM
ROTARY
DIGITAL M.M
MMV
X3002
P3003
HEAD SW
QR3001
TP3006
FROM LUMINANCE
Hss IN
HSS IN
V
TP3006 5.0Vp-p

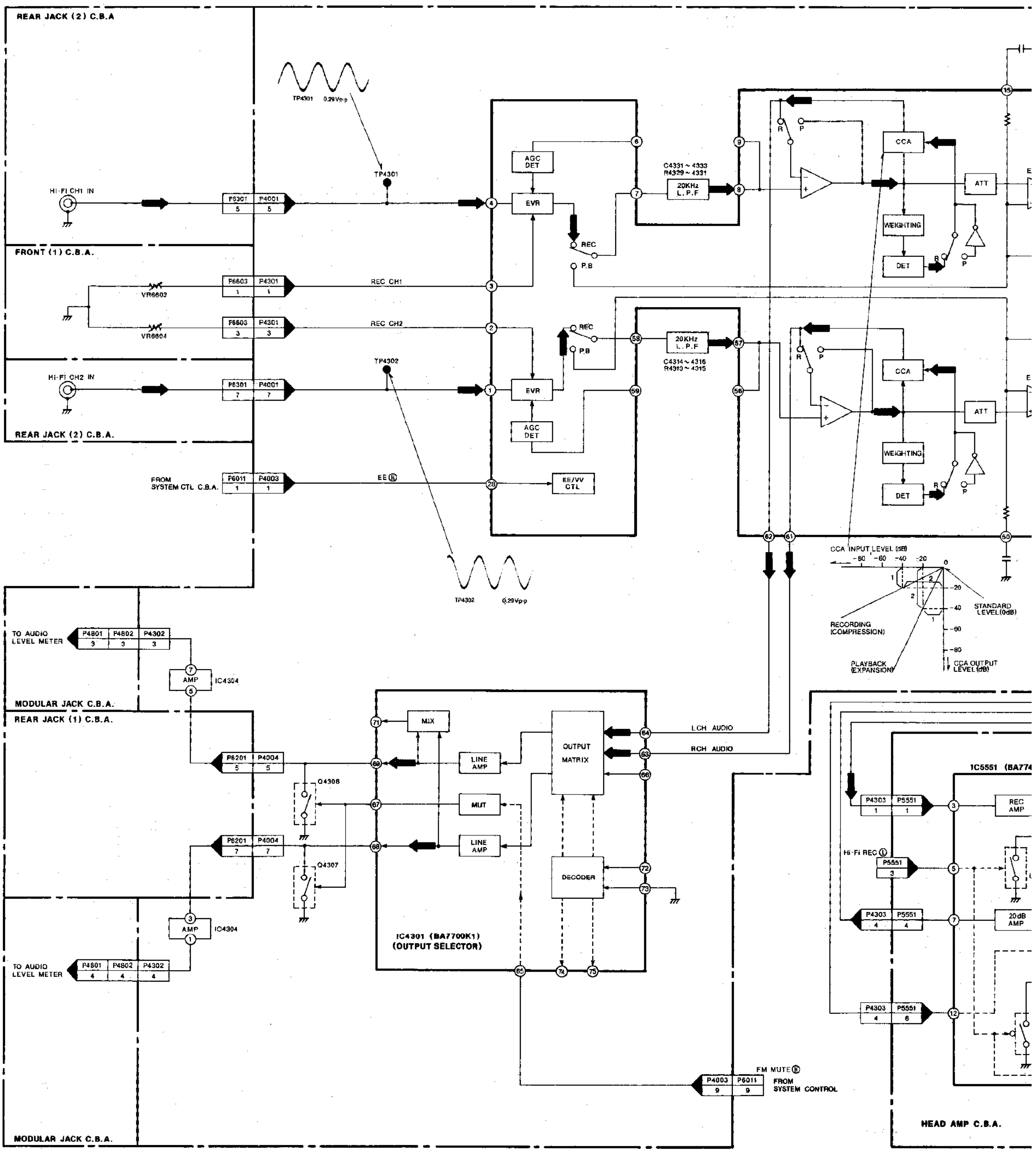

AMP
FM DEM
LIM
LIM
H.P.F
L.P.F
DOC PULSE GEN
ENV DET
MAIN EMPHASIS
dB
12
0
100K 500K 2M
→ Hz
HEAD AMP OUTPUT
RF SIGNAL
0.6Vp-p
CLP
MUTE
AMP
DET
S・SEP
PULSE DELAY
NLE
MAIN EMPH
DEV
FM MOD
W/D CLIP
CLP
LIM
LIM
DETAIL N.L.E.
NL DE
MIX
PIC CONT
NC
L.P.F.
LIM
H.P.F.
MHz
4.8
3.8
SYNC TIP
WHITE LEVEL
FM MODULATION
(dB)
GAIN
4.0
3.0
2.0
1.0
0dB
-10dB
-20dB
-30dB
1 2 3 4 (MHz)
FREQUENCY
NL EMPHASIS
dB
5
0
20dB
10dB
0dB
0.1 0.5 1 2 3 4 5
MHz
LOGIC
Q3021
R3126,27
C3144,45,46
SAG COMPENSATOR
Q3022,23
R3134
D3008
C3147
SYNC COMPENSATOR
REG 5V
Q3017
(P.B ON)
TP
H.SW PULSE
5Vp-p 25Hz
P3003
P2001
1
1
D-REC Ⓗ
REG 5V
QR3005
D3004
Q3015
BUFFER
FH04F)
QR3004
REC.Y
RF.Y
TP5602 REC 0.26V
REC CHROMA
IC5501
(AN3334K)
P3004
P5501
3
3
REC-C
VR5502
H.P.F
C3105, C3107~C3109
L3025
4
4
VR5501
REC-Y
MIX
AMP
SW
TP5503
TP5502
L3020,21
C3098~3100
3.8M 4.8MHz
627KHz TRAP
TP5508
TP5507
P5502
6
5
4
1
2
3
PB AMP
RF CHROMA
8
8
SW LOGIC
Q3013,14
FREQUENCY CONPENSATOR
7
7
C3096
C3079
L3019
VR3006
MMV
QR3003
TRIG Ⓗ
1ST & 2ND AMP
1ST & 2ND AMP
1ST & 2ND AMP
1ST & 2ND AMP
HEAD SW
H SW
HEAD SW
AGC DET
CHROMA AMP
PEAKING AMP
AGC AMP
ENVE SELECT
HSS IN
TP3004
1
1
Q5503
AMP
HEAD AMP OUTPUT
RF SIGNAL
0.2Vp-p
627K 3.8M 4.8M
(Hz)
PHASE CONPENSATOR
C3093,94
L3017
Q3012
6
6
HEAD AMP C.B.A.


TP3005
Q3021
R3126,27
C3144,45,46
SAG COMPENSATOR
Q3022,23
R3134
D3008
C3147
SYNC COMPENSATOR
H
TP3005 REC 0.82Vp-p
REG 5V
Q3017
(PB ON)
P.B Ⓛ
FROM SYSTEM CTL
H.SW PULSE
5Vp-p 25Hz
P3003
1
P2001
1
HEAD SW
FROM SERVO
DO C PULSE
FROM IC3003-24
V
TP5502 REC 0.26Vp-p
+B
VR3003
Y-NR GAIN
B2
LIM1
LIM2
INV
EDIT
-9.5dB
CNR
EQ1
EQ2
NORM
DOC
EQ
A3
AMP
EE
VV
1-K
1+K
X
LIM
LPF
COR DET
fc ≒ 220KHz
A2
K
A1
B1
IC3005
(AN3495K)
TP3001
H
TP3001 REC 1.0Vp-p
TP5503
TP5502
P5508
TP5507
P5502
SP VIDEO HEAD L
SP VIDEO HEAD R
(NOT USE)
LP VIDEO HEAD R
LP VIDEO HEAD L
R (49μm)
L (49μm)
(TOP VIEW)
7K 3.6M 4.8M
(Hz)
HEAD AMP C.B.A.

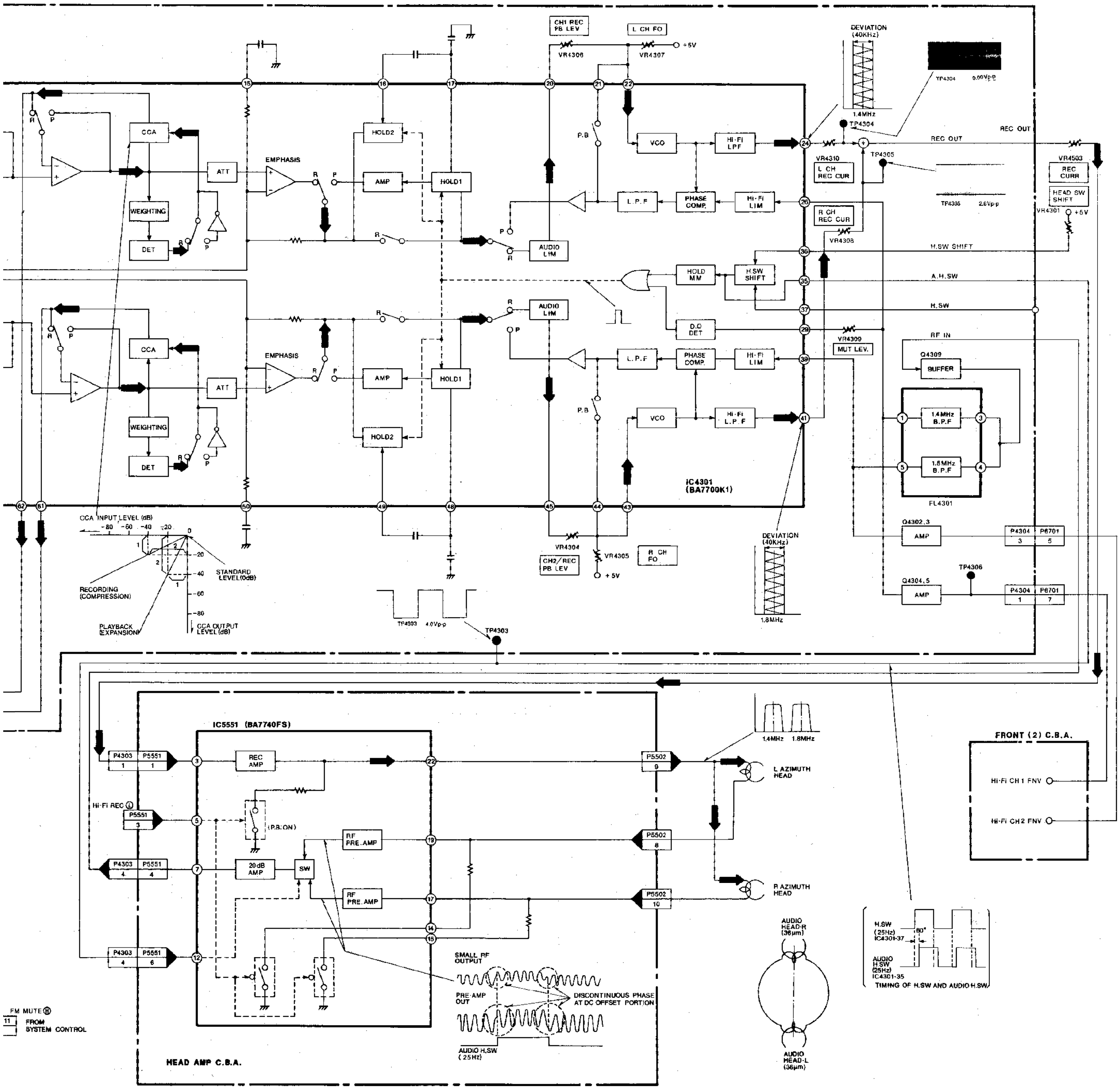
MAIN SIGNAL PATH IN REC MODE

Hi-Fi AUDIO BLOCK DIAGRAM

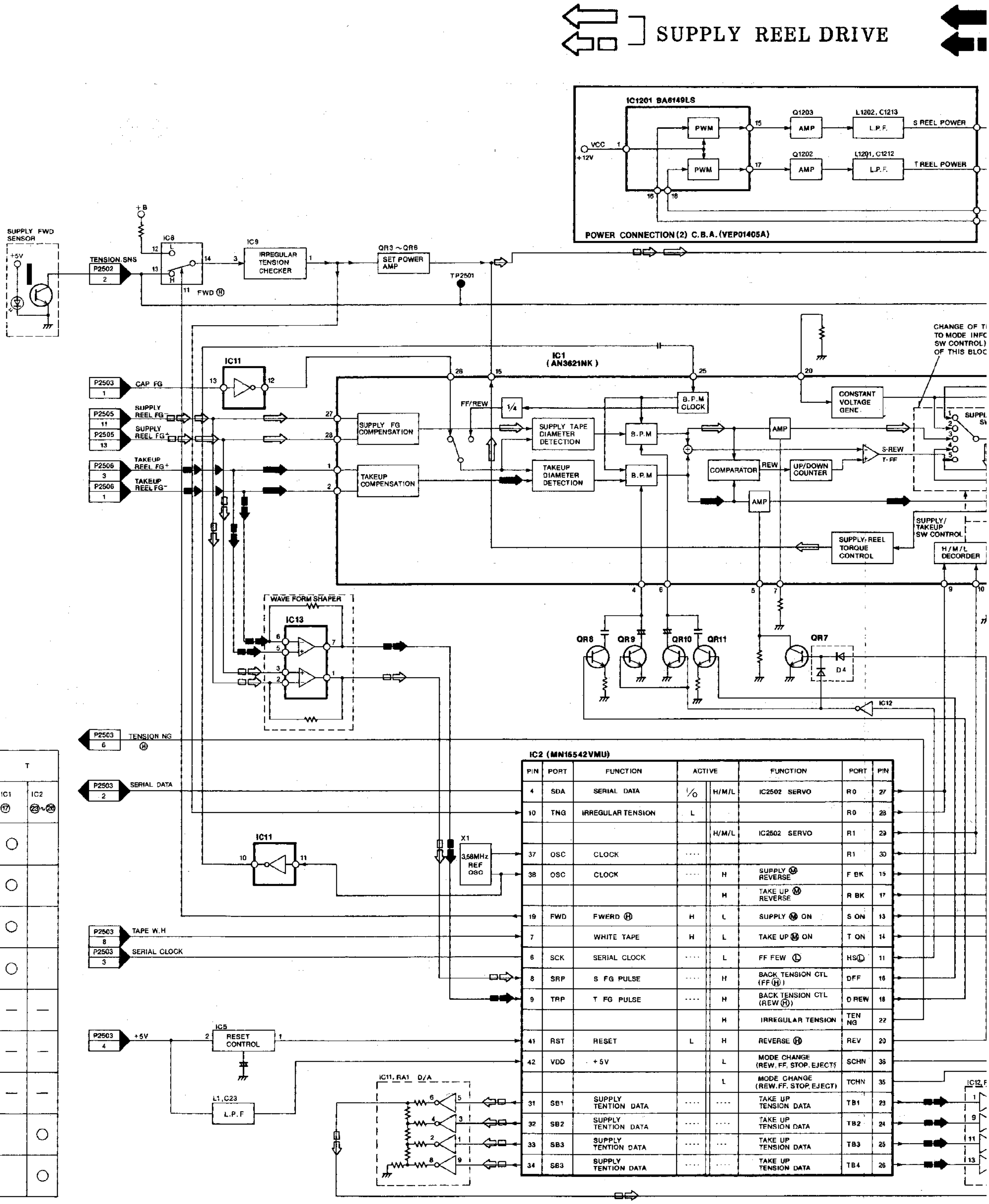
⬅ Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE


REAR JACK (2) C.B.A
TP4301 0.29Vp-p
TP4301
HI-FI CH1 IN
P6301 P4001 5 5
AGC DET
EVR
REC
P.B
C4331 ~ 4333
R4329 ~ 4331
20KHz L.P.F
FRONT (1) C.B.A.
P6603 P4301 1 1
VR6603
REC CH1
P6603 P4301 3 3
VR6604
REC CH2
20KHz L.P.F
C4314 ~ 4316
R4313 ~ 4315
TP4302
Hi-Fi CH2 IN
P6301 P4001 7 7
REAR JACK (2) C.B.A.
FROM SYSTEM CTL C.B.A.
P6011 P4003 1 1
EE Ⓗ
EE/VV CTL
CCA
ATT
WEIGHTING
DET
R
P
E
TP4302 0.29Vp-p
CCA INPUT LEVEL (dB)
-80 -60 -40 -20 0
-20
-40
-60
-80
STANDARD LEVEL(0dB)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
TO AUDIO LEVEL METER
P4801 P4802 P4302 3 3 3
AMP
IC4304
MODULAR JACK C.B.A.
REAR JACK (1) C.B.A.
P6201 P4004 5 5
Q4308
P6201 P4004 7 7
Q4307
MIX
LINE AMP
MUT
LINE AMP
OUTPUT MATRIX
DECODER
LCH AUDIO
RCH AUDIO
IC4301 (BA7700K1)
(OUTPUT SELECTOR)
TO AUDIO LEVEL METER
P4801 P4802 P4302 4 4 4
MODULAR JACK C.B.A.
FM MUTE Ⓗ
P4003 P6011 9 9
FROM SYSTEM CONTROL
IC5551 (BA774
P4303 P5551 1 1
REC AMP
Hi-Fi REC Ⓛ
P5551 3
P4303 P5551 4 4
20dB AMP
P4303 P5551 4 6
HEAD AMP C.B.A.

L PATH IN REC MODE


CH1 REC PB LEV
L CH FO
VR4306
VR4307
+5V
DEVIATION (40KHz)
1.4MHz
TP4304
TP4304 0.00Vp-p
REC OUT
VR4503
REC CURR
HEAD SW SHIFT
VR4301
TP4305
TP4305 2.6Vp-p
VR4310
L CH REC CUR
R CH REC CUR
VR4308
H.SW SHIFT
A.H.SW
H.SW
RF IN
VR4309
MUT LEV.
Q4309
BUFFER
1.4MHz B.P.F
1.8MHz B.P.F
FL4301
Q4302,3
AMP
Q4304,5
P4304
P6701
TP4306
CCA
WEIGHTING
DET
ATT
EMPHASIS
HOLD2
HOLD1
AMP
AUDIO LIM
P.B
VCO
Hi-Fi LPF
L.P.F
PHASE COMP.
Hi-Fi LIM
HOLD MM
H.SW SHIFT
D.O DET
IC4301 (BA7700K1)
CCA INPUT LEVEL (dB)
-80 -60 -40 -20 0
STANDARD LEVEL(0dB)
RECORDING (COMPRESSION)
PLAYBACK EXPANSION
CCA OUTPUT LEVEL(dB)
VR4304
CH2/REC PB LEV
VR4305
R CH FO
TP4303 4.0Vp-p
TP4303
DEVIATION (40KHz)
1.8MHz
IC5551 (BA7740FS)
P4303
P5551
Hi-Fi REC
REC AMP
(P.B:ON)
20dB AMP
SW
RF PRE.AMP
P5502
L AZIMUTH HEAD
R AZIMUTH HEAD
1.4MHz 1.8MHz
SMALL RF OUTPUT
PRE-AMP OUT
DISCONTINUOUS PHASE AT DC OFFSET PORTION
AUDIO H.SW (25Hz)
HEAD AMP C.B.A.
FM MUTE
FROM SYSTEM CONTROL
FRONT (2) C.B.A.
Hi-Fi CH 1 FNV
Hi-Fi CH2 FNV
AUDIO HEAD-R (36μm)
AUDIO HEAD-L (36μm)
H.SW (25Hz) IC4301-37
60°
AUDIO H.SW (25Hz) IC4301-35
TIMING OF H.SW AND AUDIO H.SW

REEL SERVO BLOCK DIAGRAM


SUPPLY REEL DRIVE
IC1201 BA6149LS
VCC
+12V
PWM
PWM
Q1203
AMP
Q1202
AMP
L1202, C1213
L.P.F.
L1201, C1212
L.P.F.
S REEL POWER
T REEL POWER
POWER CONNECTION (2) C.B.A. (VEP01405A)
+B
SUPPLY FWD SENSOR
+5V
TENSION.SNS
P2502
IC8
IC9
IRREGULAR TENSION CHECKER
QR3 ~ QR6
SET POWER AMP
TP2501
FWD Ⓗ
IC11
IC1 (AN3621NK)
P2503
CAP FG
P2505
SUPPLY REEL FG⁻
SUPPLY REEL FG⁺
P2506
TAKEUP REEL FG⁺
TAKEUP REEL FG⁻
FF/REW
1/4
SUPPLY FG COMPENSATION
TAKEUP COMPENSATION
SUPPLY TAPE DIAMETER DETECTION
TAKEUP TAPE DIAMETER DETECTION
B.P.M CLOCK
B.P.M
B.P.M
AMP
AMP
COMPARATOR
REW
UP/DOWN COUNTER
CONSTANT VOLTAGE GENE.
S-REW
T-FF
CHANGE OF T TO MODE INFC SW CONTROL) OF THIS BLOC
SUPPLY/TAKEUP SW CONTROL
SUPPLY-REEL TORQUE CONTROL
H/M/L DECORDER
WAVE FORM SHAPER
IC13
QR8
QR9
QR10
QR11
QR7
D4
IC12
TENSION NG Ⓗ
SERIAL DATA
IC11
X1
3.58MHz REF OSC
TAPE W.H
SERIAL CLOCK
+5V
IC5
RESET CONTROL
L1, C23
L.P.F
IC11, RA1 D/A

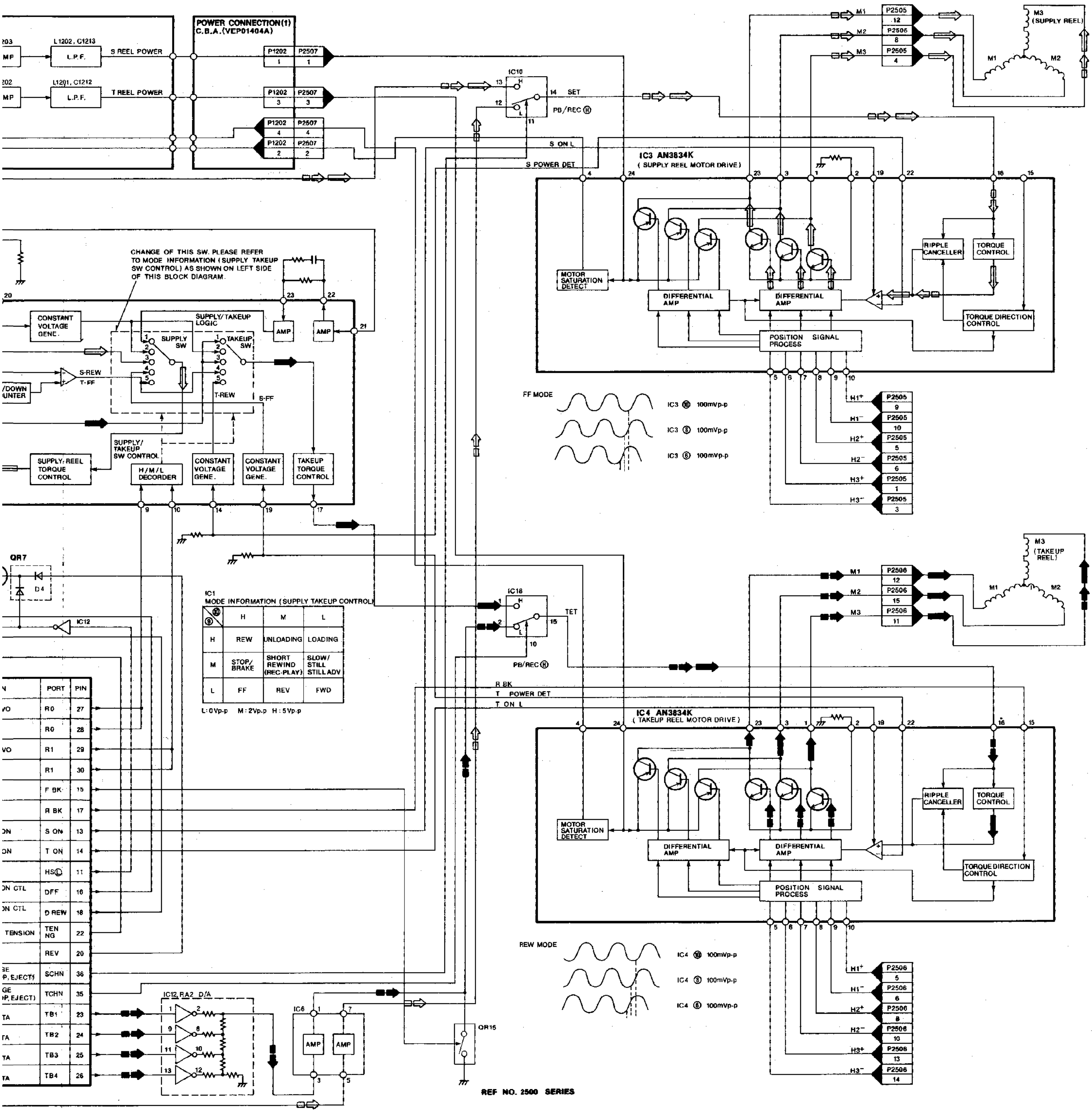
IC2 (MN15542VMU)

PIN	PORT	FUNCTION	ACTIVE		FUNCTION	PORT	PIN
4	SDA	SERIAL DATA	I/O	H/M/L	IC2502 SERVO	R0	27
10	TNG	IRREGULAR TENSION	L			R0	28
				H/M/L	IC2502 SERVO	R1	29
37	OSC	CLOCK	····			R1	30
38	OSC	CLOCK	····	H	SUPPLY Ⓜ REVERSE	F BK	15
				H	TAKE UP Ⓜ REVERSE	R BK	17
19	FWD	FWERD Ⓗ	H	L	SUPPLY Ⓜ ON	S ON	13
7		WHITE TAPE	H	L	TAKE UP Ⓜ ON	T ON	14
6	SCK	SERIAL CLOCK	····	L	FF FEW Ⓛ	HSⓁ	11
8	SRP	S FG PULSE	····	H	BACK TENSION CTL (FF Ⓗ)	DFF	16
9	TRP	T FG PULSE	····	H	BACK TENSION CTL (REW Ⓗ)	D REW	18
				H	IRREGULAR TENSION	TEN NG	22
41	RST	RESET	L	H	REVERSE Ⓗ	REV	20
42	VDD	+5V		L	MODE CHANGE (REW, FF, STOP, EJECT)	SCHN	36
				L	MODE CHANGE (REW.FF. STOP, EJECT)	TCHN	35
31	SB1	SUPPLY TENTION DATA	····	····	TAKE UP TENSION DATA	TB1	23
32	SB2	SUPPLY TENTION DATA	····	····	TAKE UP TENSION DATA	TB2	24
33	SB3	SUPPLY TENTION DATA	····	···	TAKE UP TENSION DATA	TB3	25
34	SB3	SUPPLY TENTION DATA	····	····	TAKE UP TENSION DATA	TB4	26

REEL DRIVE (S-ET, T-ET)

	S			T	
	IC7 ⑭	IC1 ⑮	IC2 ㉛~㉞	IC1 ⑰	IC2 ㉓~㉖
FWD		○		○	
REV	○			○	
F F		○		○	
REW		○		○	
SUB LOADING & LOADING		○		—	—
UNLOADING		○		—	—
SUB UNLOADING			○	—	—
REW, F F →STOP			○		○
DURING MECH BRAKEOUT			○		○

L DRIVE   TAKEUP REEL DRIVE


POWER CONNECTION(1)
C.B.A.(VEP01404A)
L1202, C1213
L.P.F.
S REEL POWER
L1201, C1212
T REEL POWER
P1202
P2507
IC10
SET
PB/REC Ⓗ
S ON L
S POWER DET
IC3 AN3834K
(SUPPLY REEL MOTOR DRIVE)
M1
M2
M3
P2505
M3
(SUPPLY REEL)
MOTOR SATURATION DETECT
DIFFERENTIAL AMP
RIPPLE CANCELLER
TORQUE CONTROL
TORQUE DIRECTION CONTROL
POSITION SIGNAL PROCESS
FF MODE
IC3 ⑩ 100mVp-p
IC3 ⑤ 100mVp-p
IC3 ⑥ 100mVp-p
H1+
H1-
H2+
H2-
H3+
H3-
CHANGE OF THIS SW. PLEASE REFER TO MODE INFORMATION (SUPPLY TAKEUP SW CONTROL) AS SHOWN ON LEFT SIDE OF THIS BLOCK DIAGRAM.
CONSTANT VOLTAGE GENE.
SUPPLY/TAKEUP LOGIC
SUPPLY SW
TAKEUP SW
AMP
S-REW
T-FF
T-REW
S-FF
/DOWN
UNTER
SUPPLY/ TAKEUP SW CONTROL
SUPPLY REEL TORQUE CONTROL
H/M/L DECORDER
CONSTANT VOLTAGE GENE.
TAKEUP TORQUE CONTROL
QR7
D4
IC12
IC18
TET
PB/REC Ⓗ
R BK
T POWER DET
T ON L
IC4 AN3834K
(TAKEUP REEL MOTOR DRIVE)
P2506
M3
(TAKEUP REEL)
REW MODE
IC4 ⑩ 100mVp-p
IC4 ⑤ 100mVp-p
IC4 ⑥ 100mVp-p
PORT
PIN
R0
R1
F BK
R BK
S ON
T ON
HS
DFF
D REW
TEN NG
REV
SCHN
TCHN
TB1
TB2
TB3
TB4
TENSION
IC12 RA2 D/A
IC6
QR15
REF NO. 2500 SERIES

IC1
MODE INFORMATION (SUPPLY TAKEUP CONTROL)

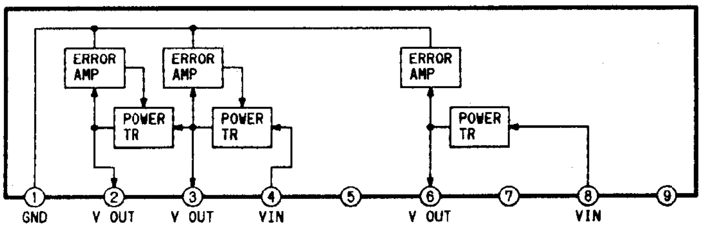
⑨ \ ⑩	H	M	L
H	REW	UNLOADING	LOADING
M	STOP/ BRAKE	SHORT REWIND (REC·PLAY)	SLOW/ STILL STILL ADV
L	FF	REV	FWD

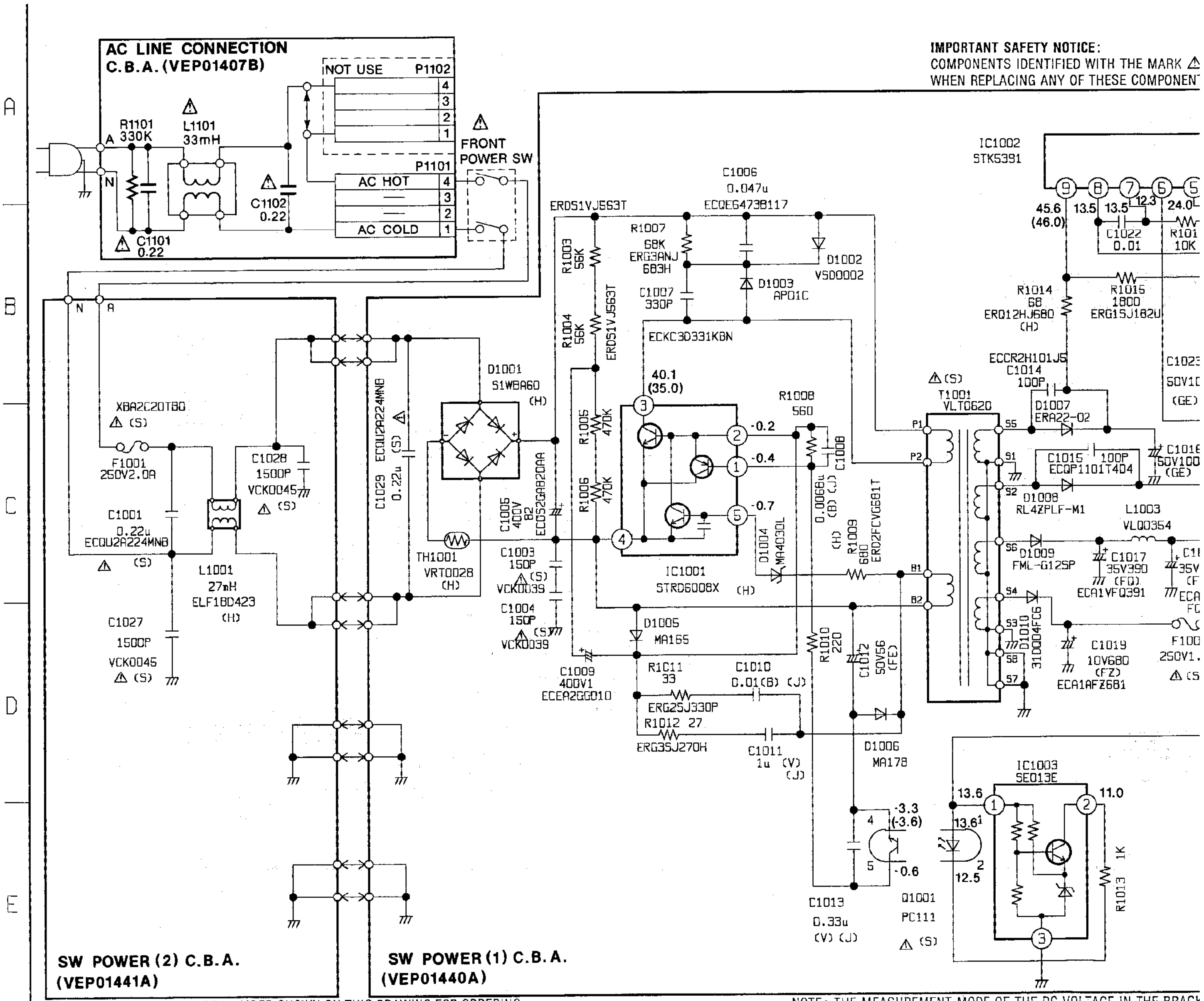
L: 0Vp-p M: 2Vp-p H: 5Vp-p

SW POWER (1), SW POWER (2) AND AC LINE CONNECTION SCHEMATIC

IC INFORMATION

IC1002 STK5391


ERROR AMP
ERROR AMP
ERROR AMP
POWER TR
POWER TR
POWER TR
1 GND
2 V OUT
3 V OUT
4 VIN
5
6 V OUT
7
8 VIN
9


A
B
C
D
E
AC LINE CONNECTION C.B.A. (VEP01407B)
NOT USE P1102
P1101
AC HOT
AC COLD
FRONT POWER SW
R1101 330K
L1101 33mH
C1102 0.22
C1101 0.22
A
N
XBA2C20TB0
F1001 250V2.0A
C1001 0.22u ECQU2A224MNB (S)
C1027 1500P VCK0045 (S)
L1001 27mH ELF18D423 (H)
C1028 1500P VCK0045 (S)
C1029 ECQU2A224MNB 0.22u (S)
D1001 S1WBA60 (H)
TH1001 VRT0028 (H)
C1005 400V 82 ECOS2GA820AA
C1003 150P (S) VCK0039
C1004 150P (S) VCK0039
C1009 400V1 ECEA2GG010
ERD51VJ563T
R1003 56K
R1004 56K
ERD51VJ563T
R1005 470K
R1006 470K
R1007 68K ERG3ANJ 683H
C1007 330P
ECKC3D331KBN
C1006 0.047u ECQE6473B117
D1002 VSD0002
D1003 APD1C
40.1 (35.0)
IC1001 STRD6008X (H)
-0.2
-0.4
-0.7
R1008 560
C1008 0.0066u (B) (J)
D1004 MA4030L
R1009 680 ERD2FCVG681T
D1005 MA165
R1011 33
ERG25J330P
R1012 27
ERG35J270H
C1010 0.01(B) (J)
C1011 1u (V) (J)
R1010 220
C1012 50V56 (FE)
D1006 MA178
-3.3 (-3.6)
-0.6
C1013 0.33u (V) (J)
D1001 PC111 (S)
T1001 VLT0620 (S)
P1
P2
B1
B2
S5
S1
S2
S6
S4
S3
S8
S7
IC1002 STK5391
45.6 (46.0)
13.5
13.5
12.3
24.0
C1022 0.01
R101 10K
R1014 68 ERD12HJ680 (H)
R1015 1800 ERG15J182U
ECCR2H101J5 C1014 100P
D1007 ERA22-02
C1015 100P ECQP1101T4D4
C1016 50V100 (GE)
C1023 50V10 (GE)
D1008 RL4ZPLF-M1
L1003 VLQ0354
D1009 FML-G12SP
C1017 35V390 (FQ) ECA1VFQ391
35V
D1010 310D04FC6
C1019 10V680 (FZ) ECA1AFZ681
F100 250V1.
IC1003 SE013E
13.6
11.0
13.6
12.5
R1013 1K
SW POWER (2) C.B.A. (VEP01441A)
SW POWER (1) C.B.A. (VEP01440A)

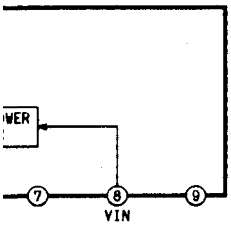
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠
WHEN REPLACING ANY OF THESE COMPONEN

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

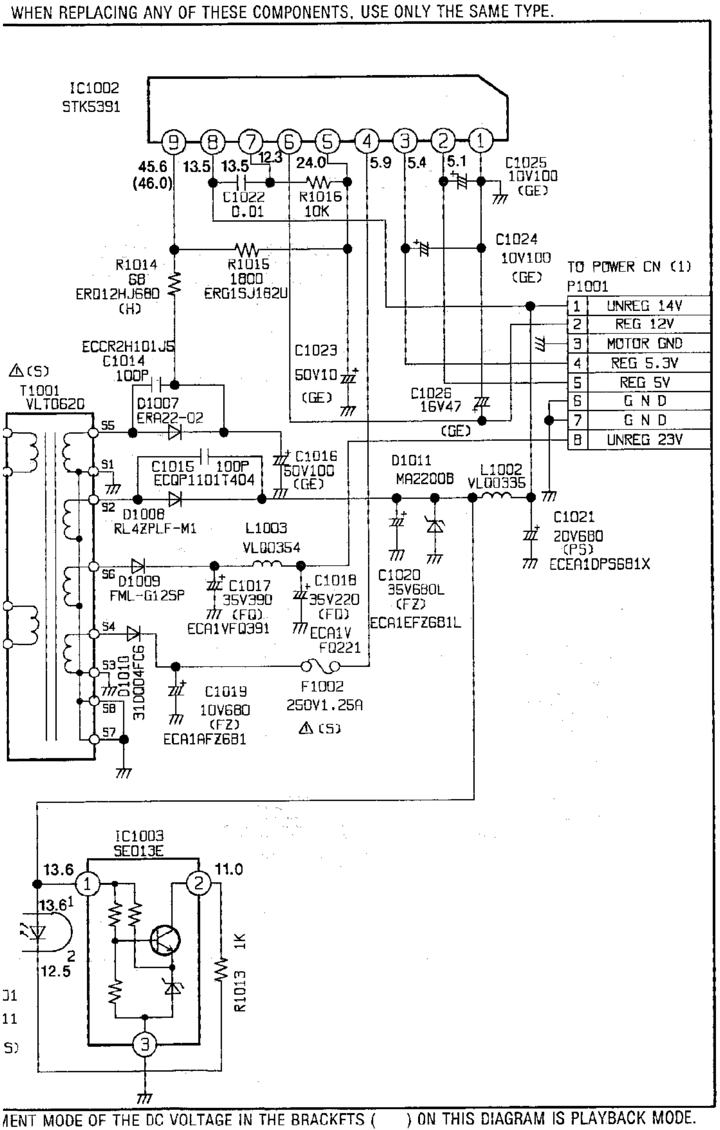
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACK
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE B
MEASUREMENT SIGNAL...PAL COLOUR SIGNAL.

1	2	3	4	5	6

ON SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.


IC1002
STK5391
9
8
7
6
5
4
3
2
1
45.6
(46.0)
13.5
13.5
12.3
24.0
5.9
5.4
5.1
C1025
10V100
(GE)
C1022
0.01
R1016
10K
C1024
10V100
(GE)
R1014
68
ERD12HJ680
(H)
R1015
1800
ERG1SJ182U
TO POWER CN (1)
P1001
1 UNREG 14V
2 REG 12V
3 MOTOR GND
4 REG 5.3V
5 REG 5V
6 G N D
7 G N D
8 UNREG 23V
ECCR2H101J5
C1014
100P
⚠(S)
T1001
VLT0620
C1023
50V10
(GE)
D1007
ERA22-02
C1026
16V47
(GE)
S5
S1
S2
S6
S4
S3
S8
S7
C1015 100P
ECQP1101T404
C1016
50V100
(GE)
D1011
MA2200B
L1002
VL00335
D1008
RL4ZPLF-M1
L1003
VL00354
C1021
20V680
(P5)
ECEA1DPS681X
D1009
FML-G12SP
C1017
35V390
(FQ)
ECA1VFQ391
C1018
35V220
(FQ)
ECA1V
FQ221
C1020
35V680L
(FZ)
ECA1EFZ681L
D1010
31DD04FC6
C1019
10V680
(FZ)
ECA1AFZ681
F1002
250V1.25A
⚠(S)
IC1003
SE013E
13.6
11.0
13.6
1
2
12.5
1K
R1013
3
31
11
S)

IENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS PLAYBACK MODE.
IENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
SIGNAL...PAL COLOUR SIGNAL.

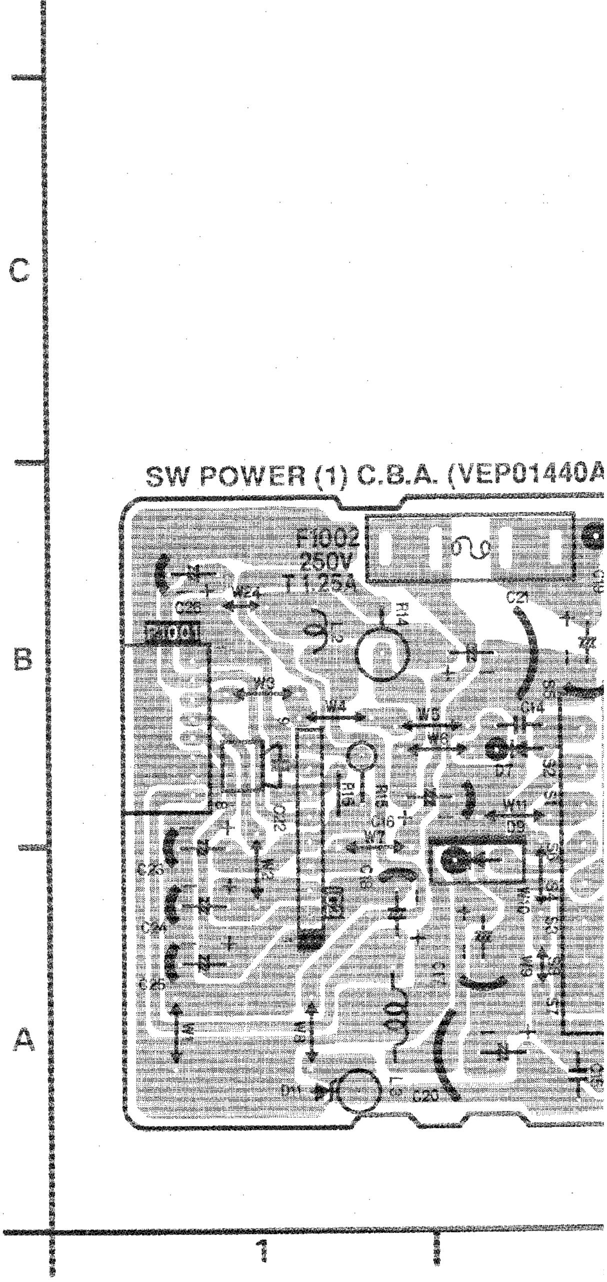
5 6 7 8

SW POWER (1) C.B.A. (VEP0144
AND AC LINE CONNECTION C

SW POWER (1) C.B.A., SW POWER (2) C.B.A. AND AC LINE CONNECTION C.B.A.	
Transistor	
Q1001	B-3
Integrated Circuits	
IC1001 IC1002 IC1003	B-3 A-1 B-2
Connector	
P1001 P1101	B-1 D-5

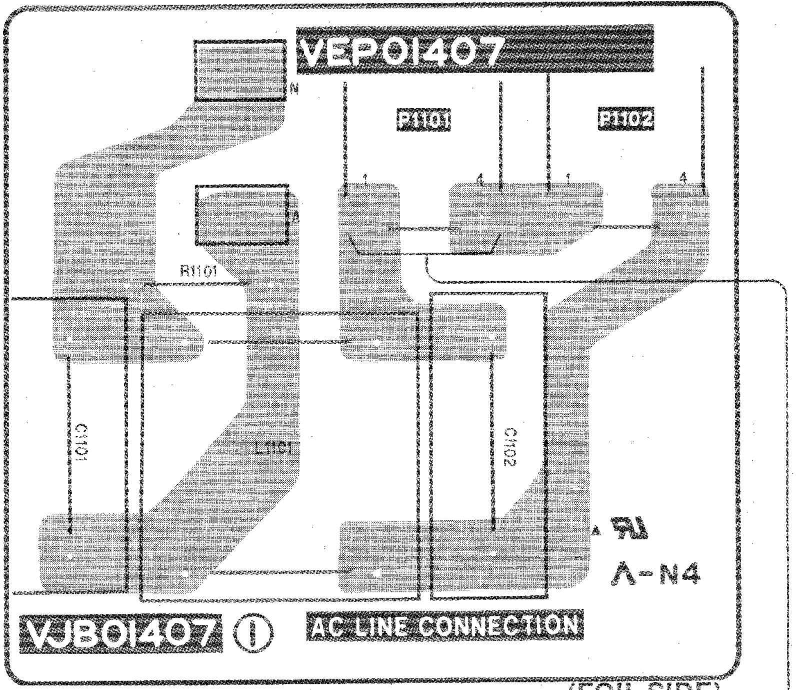
ADDRESS INFORMATION

D


C
SW POWER (1) C.B.A. (VEP01440A
F1002
250V
T1.25A
P1001
B
A
1
C21
C26
C14
C16
C23
C24
C25
C20
D7
D9
D11
W1
W3
W4
W5
W6
W7
W11
W13
W24
R13
R14

440A), SW POWER (2) C.B.A. (VEP01441A)
C.B.A. (VEP01407B)

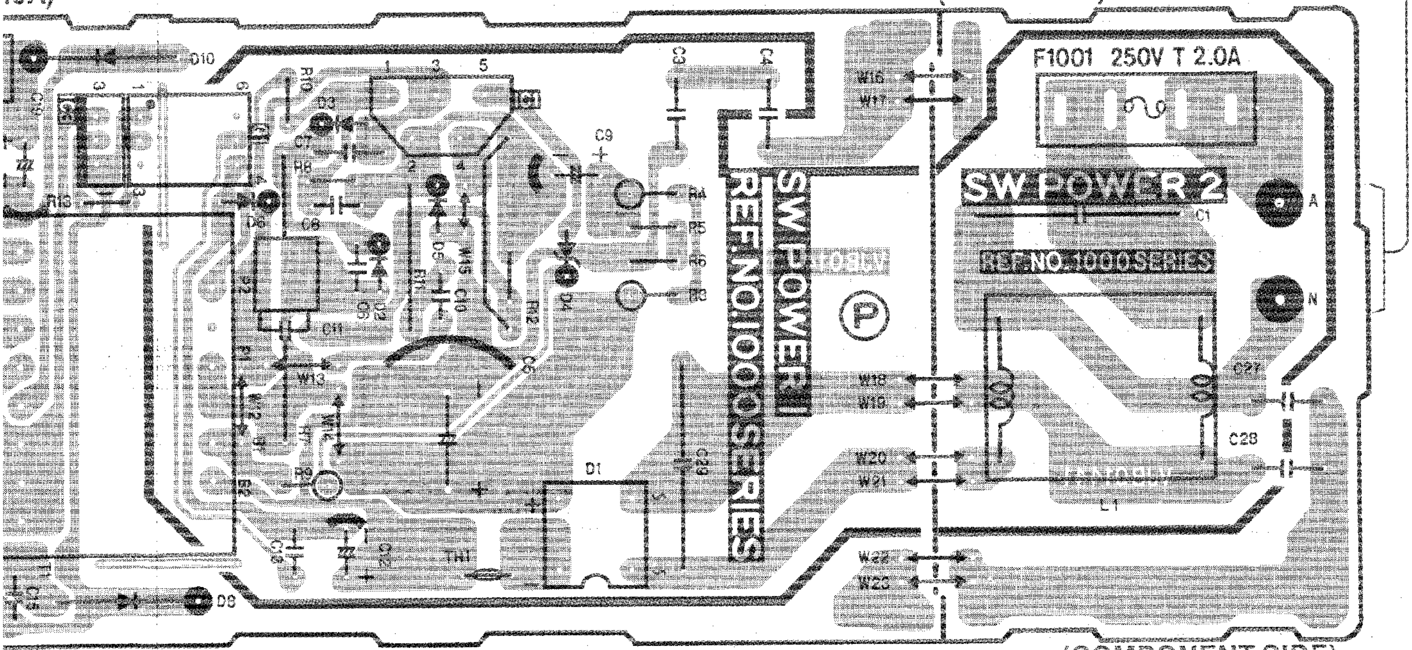
AC LINE CONNECTION C.B.A. (VEP01407B)


VEP01407
N
P1101
P1102
1
4
1
4
A
R1101
C1101
L1101
C1102
A
A-N4
VJB01407
AC LINE CONNECTION

(FOIL SIDE)

SW POWER (2) C.B.A.
(VEP01441A)

40A)


D10
C15
R13
R10
D3
C7
R8
C8
D5
1
3
5
IC1
C3
C4
C9
R4
R5
R6
R3
D4
C11
C6
C5
W13
W14
R9
C18
D2
TH1
D1
C29
D8
SW POWER 1
REF NO.1000 SERIES
W16
W17
F1001 250V T 2.0A
SW POWER 2
C1
REF NO.1000 SERIES
A
N
W18
W19
W20
W21
C27
C28
L1
W22
W23

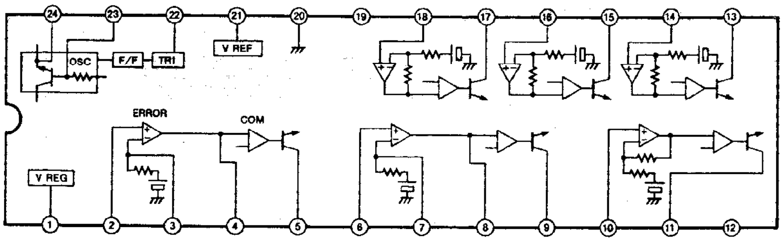
(COMPONENT SIDE)

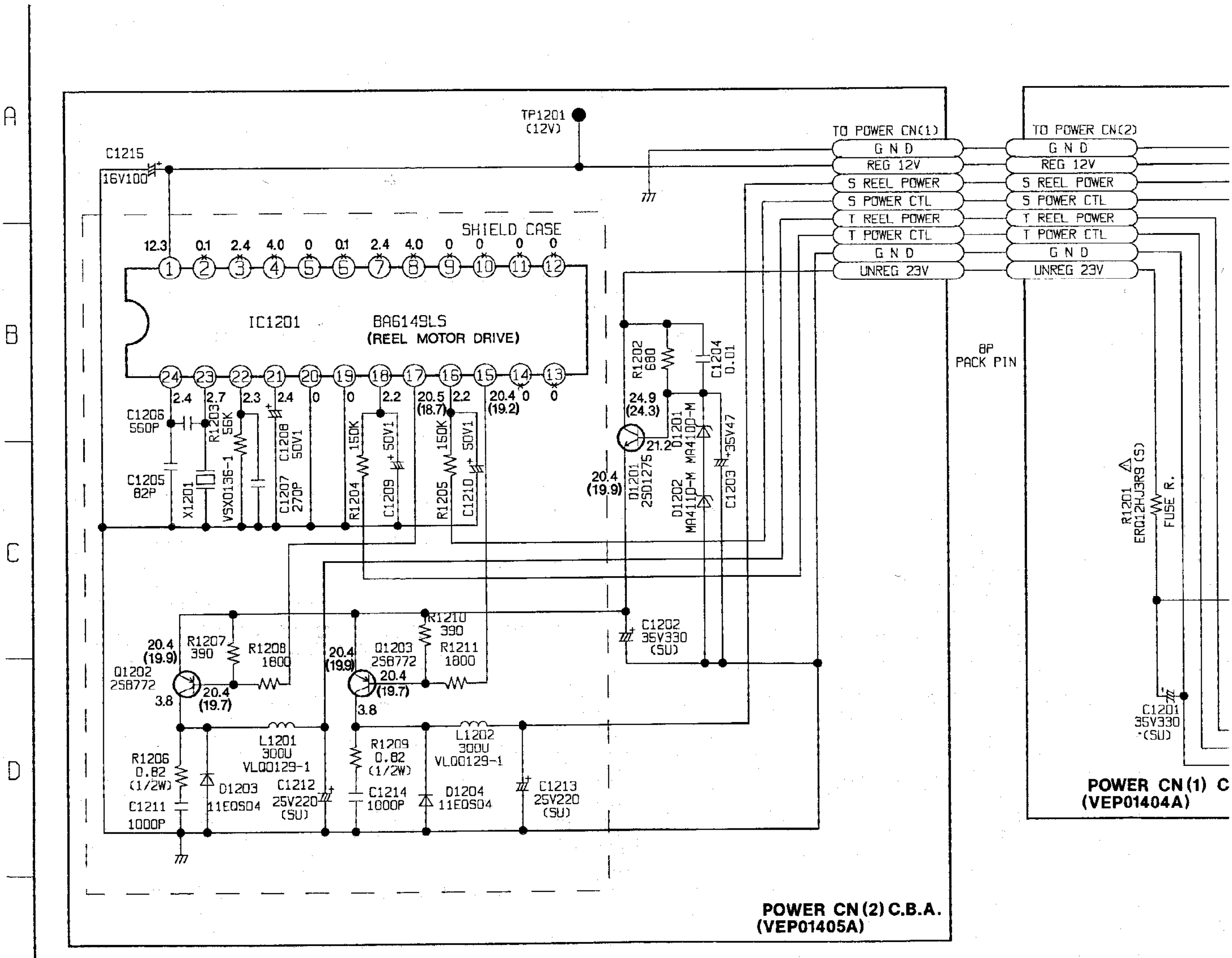
2 3 4 5

POWER CONNECTION (1) AND POWER CONNECTION (2) SCHEMATIC

IC INFORMATION

IC1201 BA6149LS


OSC
F/F
TRI
V REF
V REG
ERROR
COM
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24


A
B
C
D
E
TP1201
(12V)
C1215
16V100
TO POWER CN(1)
TO POWER CN(2)
G N D
REG 12V
S REEL POWER
S POWER CTL
T REEL POWER
T POWER CTL
G N D
UNREG 23V
SHIELD CASE
12.3
0.1
2.4
4.0
0
0.1
2.4
4.0
0
0
0
0
IC1201
BA6149LS
(REEL MOTOR DRIVE)
2.4
2.7
2.3
2.4
0
0
2.2
20.5
(18.7)
2.2
20.4
(19.2)
0
0
C1206
560P
R1203
56K
C1208
50V1
R1204
150K
C1209
50V1
R1205
150K
C1210
50V1
C1205
82P
X1201
VSX0136-1
C1207
270P
R1202
680
C1204
0.01
24.9
(24.3)
21.2
20.4
(19.9)
Q1201
2SD1275
D1201
MA4100-M
D1202
MA4110-M
35V47
C1203
8P
PACK PIN
R1201
ERQ12HJ3R9(S)
FUSE R.
R1207
390
R1208
1800
20.4
(19.9)
Q1202
2SB772
3.8
20.4
(19.7)
R1210
390
Q1203
2SB772
R1211
1800
20.4
(19.9)
20.4
(19.7)
3.8
C1202
35V330
(SU)
L1201
300U
VLQ0129-1
L1202
300U
VLQ0129-1
R1206
0.82
(1/2W)
C1211
1000P
D1203
11EQS04
C1212
25V220
(SU)
R1209
0.82
(1/2W)
C1214
1000P
D1204
11EQS04
C1213
25V220
(SU)
C1201
35V330
(SU)
POWER CN(1) C
(VEP01404A)
POWER CN(2) C.B.A.
(VEP01405A)

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

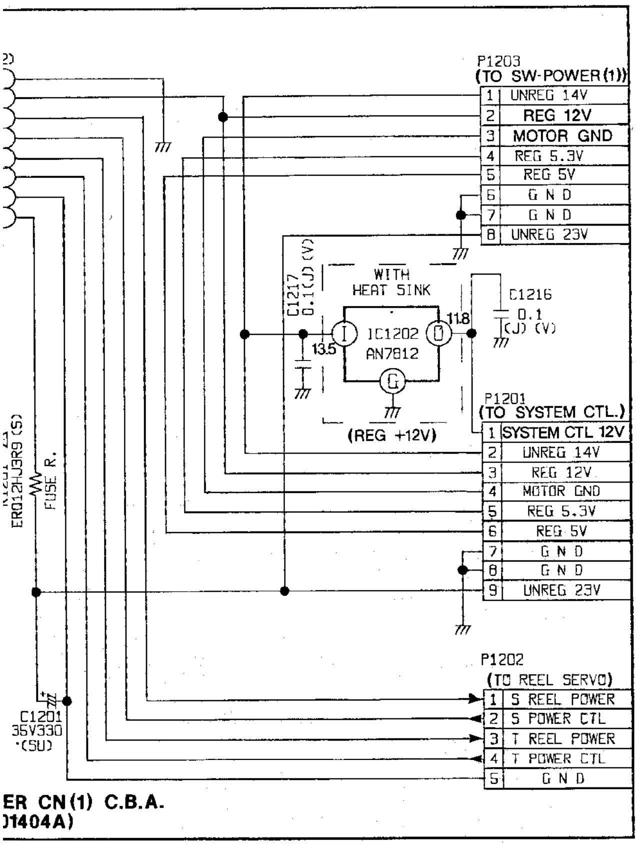
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (,) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
MEASUREMENT SIGNAL...PAL COLOUR SIGNAL.

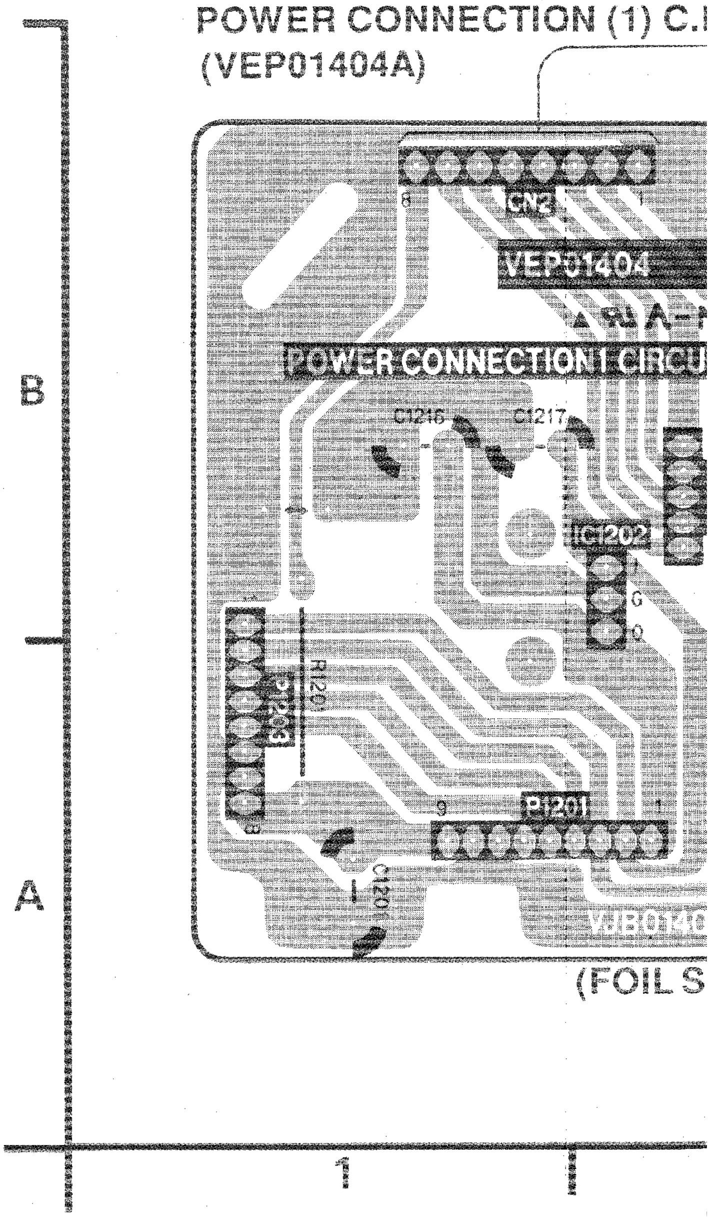
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH TH
WHEN REPLACING ANY OF THESE C

1 2 3 4 5

IATIC DIAGRAM

POWER CONNECTION (1) C.B.A. (V


P1203
(TO SW-POWER(1))
1 UNREG 14V
2 REG 12V
3 MOTOR GND
4 REG 5.3V
5 REG 5V
6 G N D
7 G N D
8 UNREG 23V
C1217
0.1(J)(V)
WITH HEAT SINK
IC1202
AN7812
I
O
G
13.5
11.8
C1216
0.1
(J) (V)
(REG +12V)
P1201
(TO SYSTEM CTL.)
1 SYSTEM CTL 12V
2 UNREG 14V
3 REG 12V
4 MOTOR GND
5 REG 5.3V
6 REG 5V
7 G N D
8 G N D
9 UNREG 23V
ERD12HJ3R9 (S)
FUSE R.
P1202
(TO REEL SERVO)
1 S REEL POWER
2 S POWER CTL
3 T REEL POWER
4 T POWER CTL
5 G N D
C1201
35V330
(SU)
ER CN(1) C.B.A.
)1404A)


POWER CONNECTION (1) C.I
(VEP01404A)
CN2
VEP01404
POWER CONNECTION1 CIRCU
C1216
C1217
IC1202
R1201
P1203
P1201
C1201
8
9
1
B
A
1
(FOIL S

IOTICE:

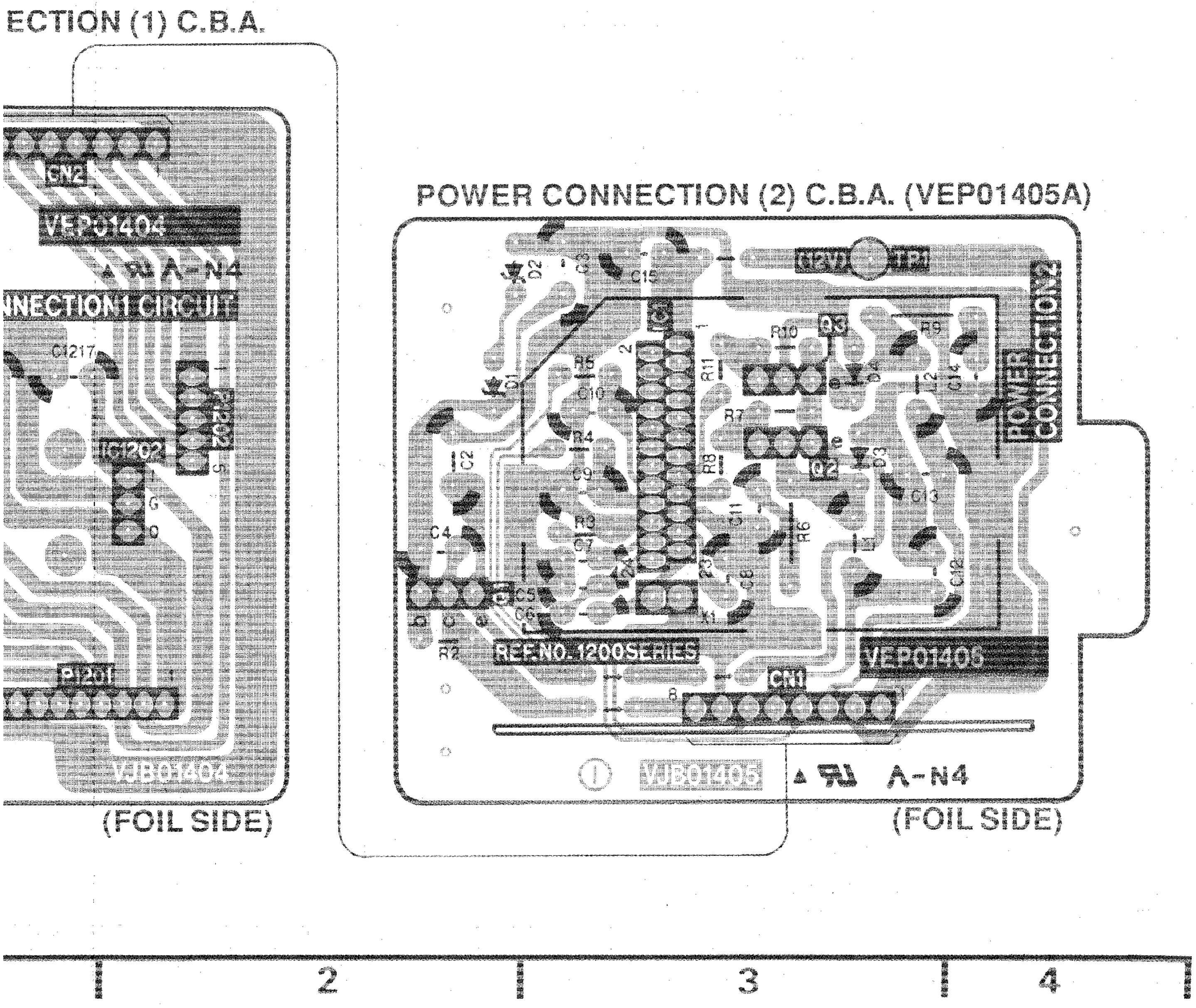
-IED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
Y OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

6 | 7 | 8

I (1) C.B.A. (VEP01404A) AND POWER CONNECTION (2) C.B.A. (VEP01405A)

POWER CONNECTION (1) C.B.A. AND POWER CONNECTION (2) C.B.A.	
Transistors	
Q1201	A-2
Q1202	B-3
Q1203	B-3
Integrated Circuit	
IC1201	B-3
IC1202	B-2
Test Point	
TP1201	B-3
Connectors	
P1201	A-1
P1202	B-2
P1203	A-1

ADDRESS INFORMATION



ECTION (1) C.B.A.

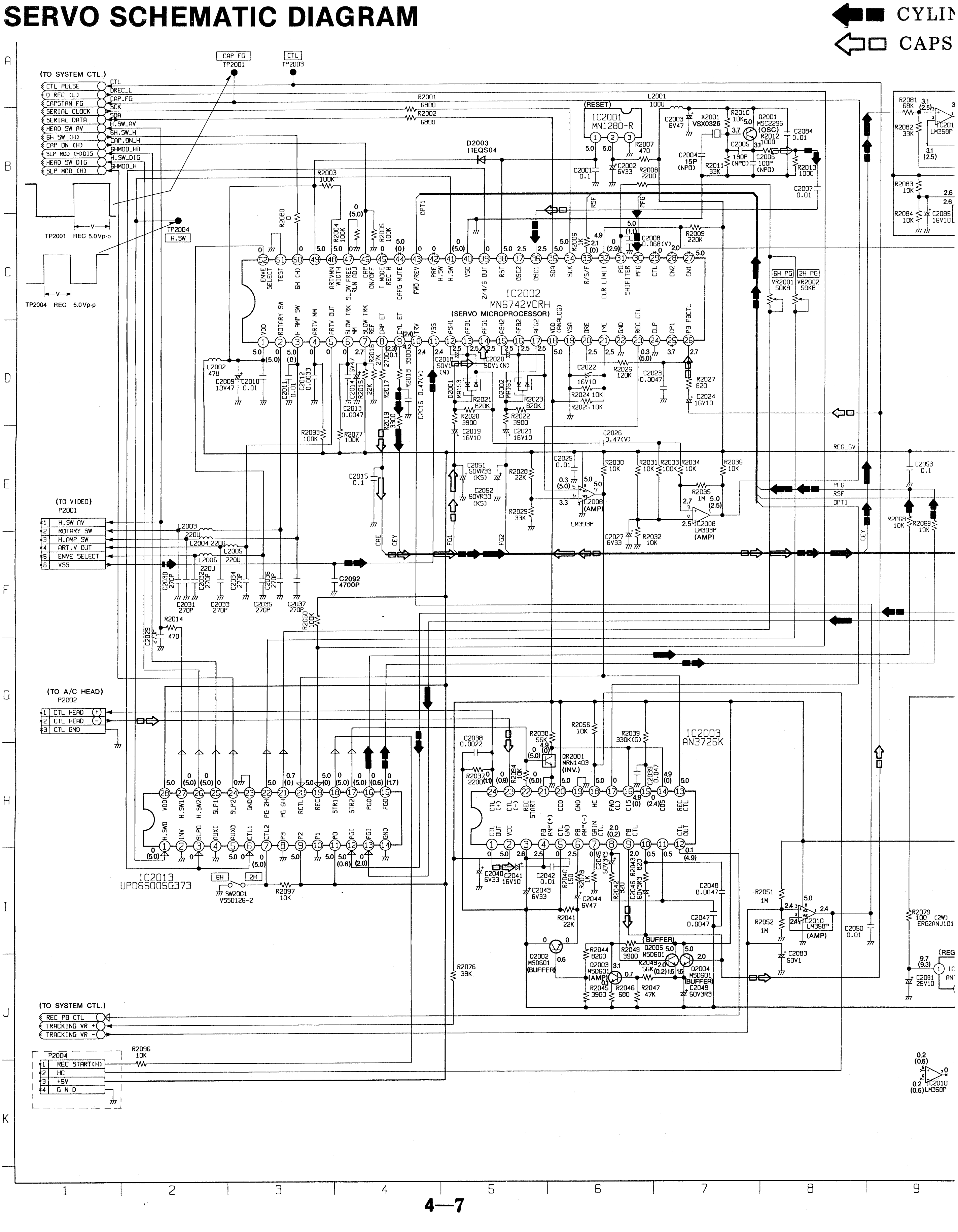
POWER CONNECTION (2) C.B.A. (VEP01405A)

(FOIL SIDE)

(FOIL SIDE)

CN2
VEP01404
A-N4
NNECTION1 CIRCUIT
C1217
P1202
1
5
IC1202
G
O
P1201
1
VJB01404
D2
C3
C15
12V
TP1
IC1
2
1
R10
Q3
R9
R5
R11
D1
C10
R7
D4
C14
POWER CONNECTION2
R4
C2
C9
R8
Q2
D3
C13
R3
C7
C11
R6
C4
C24
C23
C8
C12
C5
C6
K1
R2
REF.NO. 1200SERIES
VEP01405
CN1
8
1
VJB01405
A-N4
2
3
4

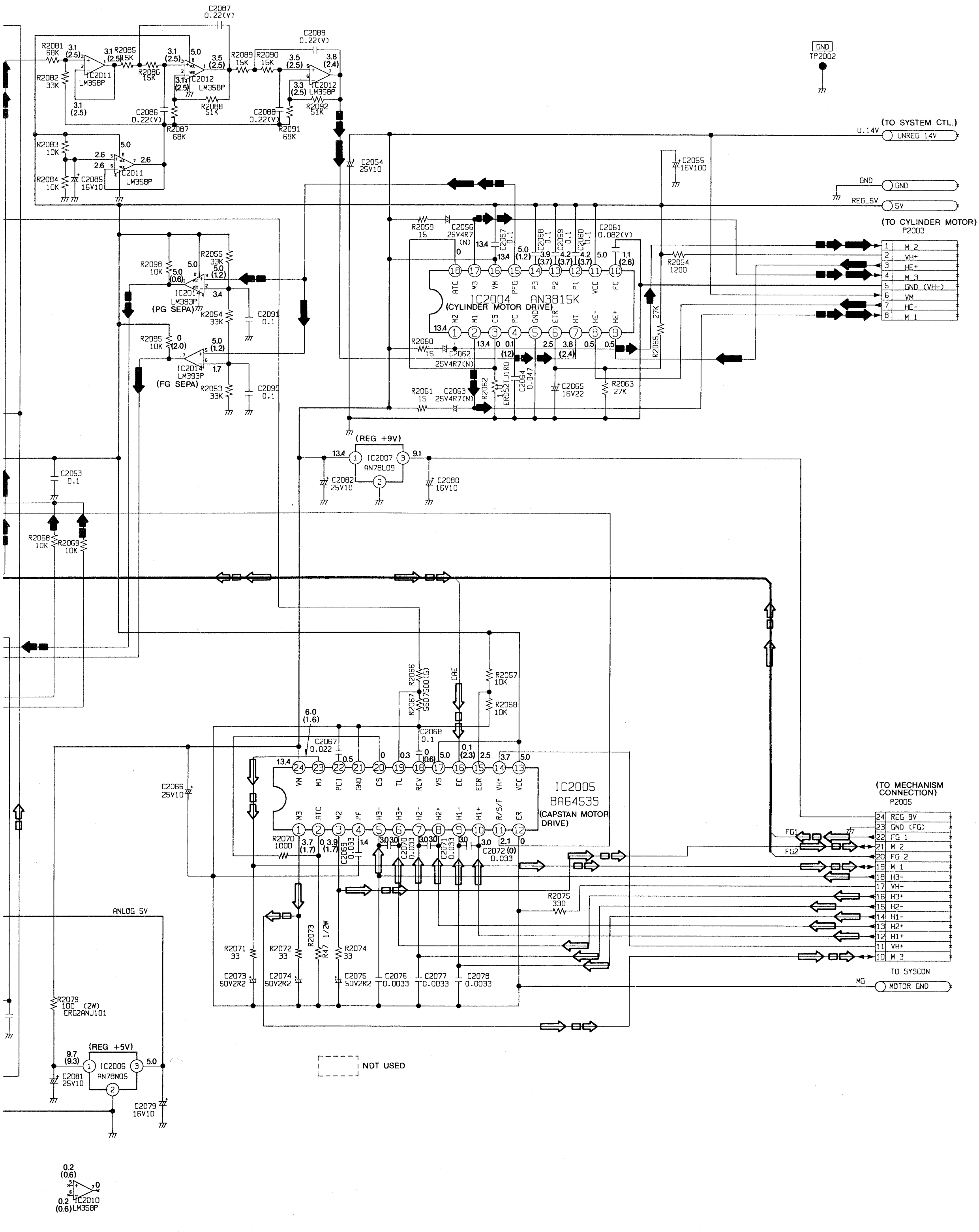
SERVO SCHEMATIC DIAGRAM


CYLI
CAPS
(TO SYSTEM CTL.)
CTL PULSE
D REC (L)
CAPSTAN FG
SERIAL CLOCK
SERIAL DATA
HEAD SW AV
6H SW (H)
CAP ON (H)
SLP MOD (H)DIS
HEAD SW DIG
SLP MOD (H)
CAP FG
TP2001
CTL
TP2003
TP2004
H.SW
TP2001 REC 5.0Vp-p
TP2004 REC 5.0Vp-p
R2001 6800
R2002 6800
D2003 11EQS04
(RESET)
IC2001
MN1280-R
L2001 100U
X2001 VSX0326
Q2001 MSC2295 (OSC)
IC2002
MN6742VCRH
(SERVO MICROPROCESSOR)
6H PG VR2001 50KB
2H PG VR2002 50KB
IC2008 LM393P (AMP)
REG_5V
PFG
RSF
DPT1
CEY
CRE
FG1
FG2
C2092 4700P
(TO VIDEO)
P2001
H.SW AV
ROTARY SW
H.AMP SW
ART.V OUT
ENVE SELECT
VSS
(TO A/C HEAD)
P2002
CTL HEAD (+)
CTL HEAD (-)
CTL GND
IC2013
UPD6500SG373
SW2001 VSS0126-2
IC2003
AN3726K
QR2001 MRN1403 (INV.)
Q2002 MSD601 (BUFFER)
Q2003 MSD601 (AMP)
Q2004 MSD601 (BUFFER)
Q2005 MSD601 (BUFFER)
IC2010 LM358P (AMP)
(TO SYSTEM CTL.)
REC PB CTL
TRACKING VR +
TRACKING VR -
P2004
REC START(H)
HC
+5V
GND
R2096 10K
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9

■ CYLINDER SERVO PHASE LOOP. ⬅ CYLINDER SERVO SPEED LOOP.

☐ CAPSTAN SERVO PHASE LOOP. ⇦ CAPSTAN SERVO SPEED LOOP.

MOTO


IC2011 LM358P
IC2012 LM358P
IC2014 LM393P
(PG SEPA)
(FG SEPA)
IC2004 AN3815K
(CYLINDER MOTOR DRIVE)
(REG +9V)
IC2007 AN78L09
IC2005 BA6453S
(CAPSTAN MOTOR DRIVE)
(REG +5V)
IC2006 AN78N05
IC2010 LM358P
GND TP2002
(TO SYSTEM CTL.)
U.14V
UNREG 14V
GND
REG_5V
5V
(TO CYLINDER MOTOR)
P2003
1 M 2
2 VH+
3 HE+
4 M 3
5 GND (VH-)
6 VM
7 HE-
8 M 1
(TO MECHANISM CONNECTION)
P2005
24 REG 9V
23 GND (FG)
22 FG 1
21 M 2
20 FG 2
19 M 1
18 H3-
17 VH-
16 H3+
15 H2-
14 H1-
13 H2+
12 H1+
11 VH+
10 M 3
TO SYSCON
MG
MOTOR GND
ANLOG 5V
NOT USED

B

A

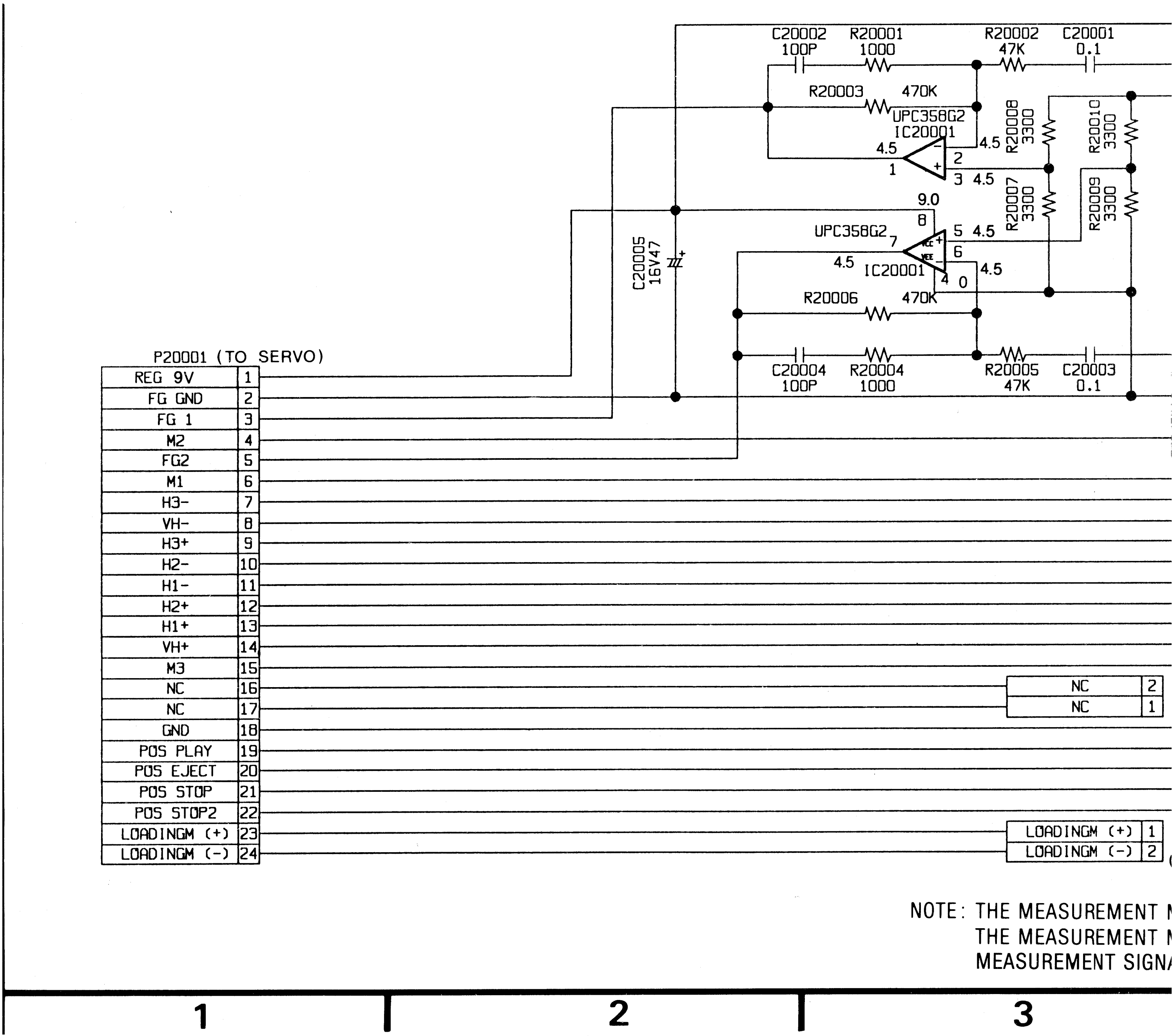
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
MEASUREMENT SIGNAL...PAL COLOUR SIGNAL.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

9 | 10 | 11 | 12 | 13 | 14 | 15 | 16

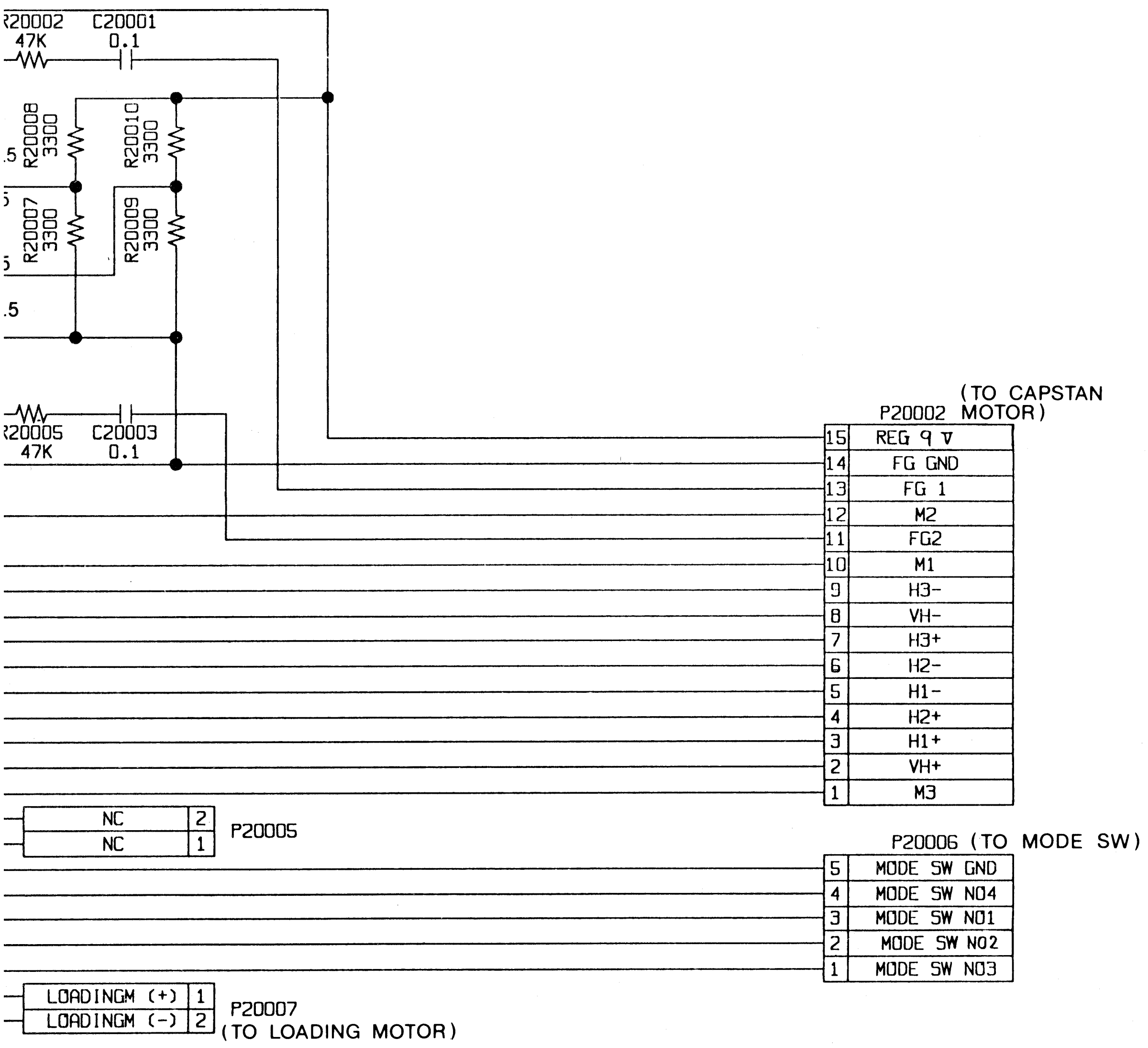
OTOR BASE SCHEMATIC DIAGRAM

NOTE: DO NOT USE THE PA
IN THE PARTS LIST,


C20002
100P
R20001
1000
R20002
47K
C20001
0.1
R20003
470K
UPC358G2
IC20001
4.5
1
2
3
4.5
R20008
3300
R20010
3300
R20007
3300
R20009
3300
9.0
8
UPC358G2
7
5
4.5
6
4.5
IC20001
4
0
4.5
R20006
470K
C20005
16V47
C20004
100P
R20004
1000
R20005
47K
C20003
0.1
P20001 (TO SERVO)
REG 9V 1
FG GND 2
FG 1 3
M2 4
FG2 5
M1 6
H3- 7
VH- 8
H3+ 9
H2- 10
H1- 11
H2+ 12
H1+ 13
VH+ 14
M3 15
NC 16
NC 17
GND 18
POS PLAY 19
POS EJECT 20
POS STOP 21
POS STOP2 22
LOADINGM (+) 23
LOADINGM (-) 24
NC 2
NC 1
LOADINGM (+) 1
LOADINGM (-) 2
1
2
3

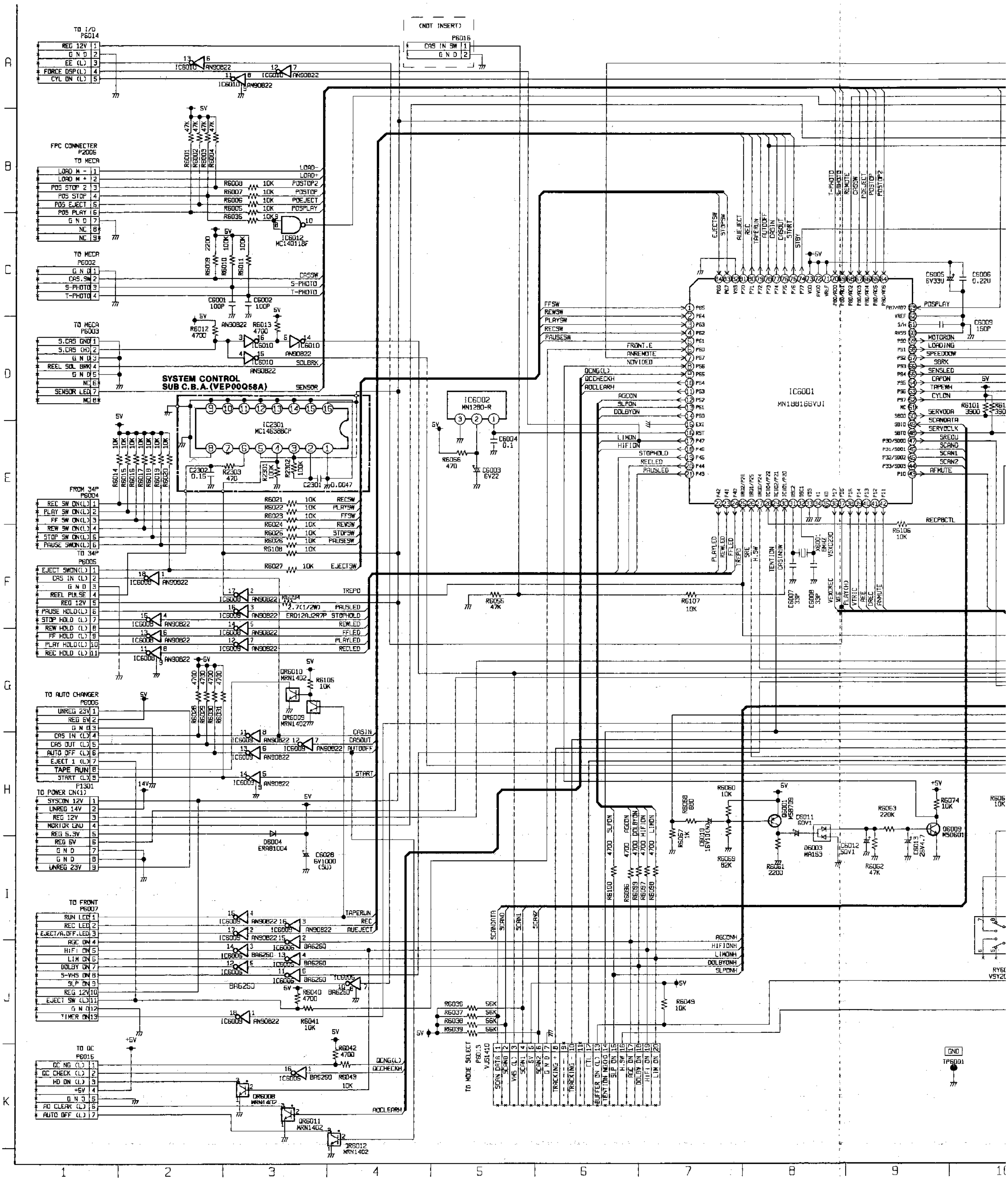
NOTE: THE MEASUREMENT
THE MEASUREMENT
MEASUREMENT SIGN

DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


R20002
47K
C20001
0.1
R20008
3300
R20010
3300
.5
R20007
3300
R20009
3300
.5
R20005
47K
C20003
0.1
(TO CAPSTAN MOTOR)
P20002
15 REG 9 V
14 FG GND
13 FG 1
12 M2
11 FG2
10 M1
9 H3-
8 VH-
7 H3+
6 H2-
5 H1-
4 H2+
3 H1+
2 VH+
1 M3
NC 2
NC 1
P20005
P20006 (TO MODE SW)
5 MODE SW GND
4 MODE SW NO4
3 MODE SW NO1
2 MODE SW NO2
1 MODE SW NO3
LOADINGM (+) 1
LOADINGM (-) 2
P20007
(TO LOADING MOTOR)

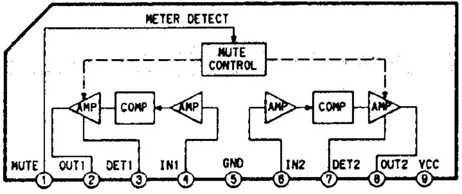
HE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
HE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
EASUREMENT SIGNAL...PAL COLOUR SIGNAL.

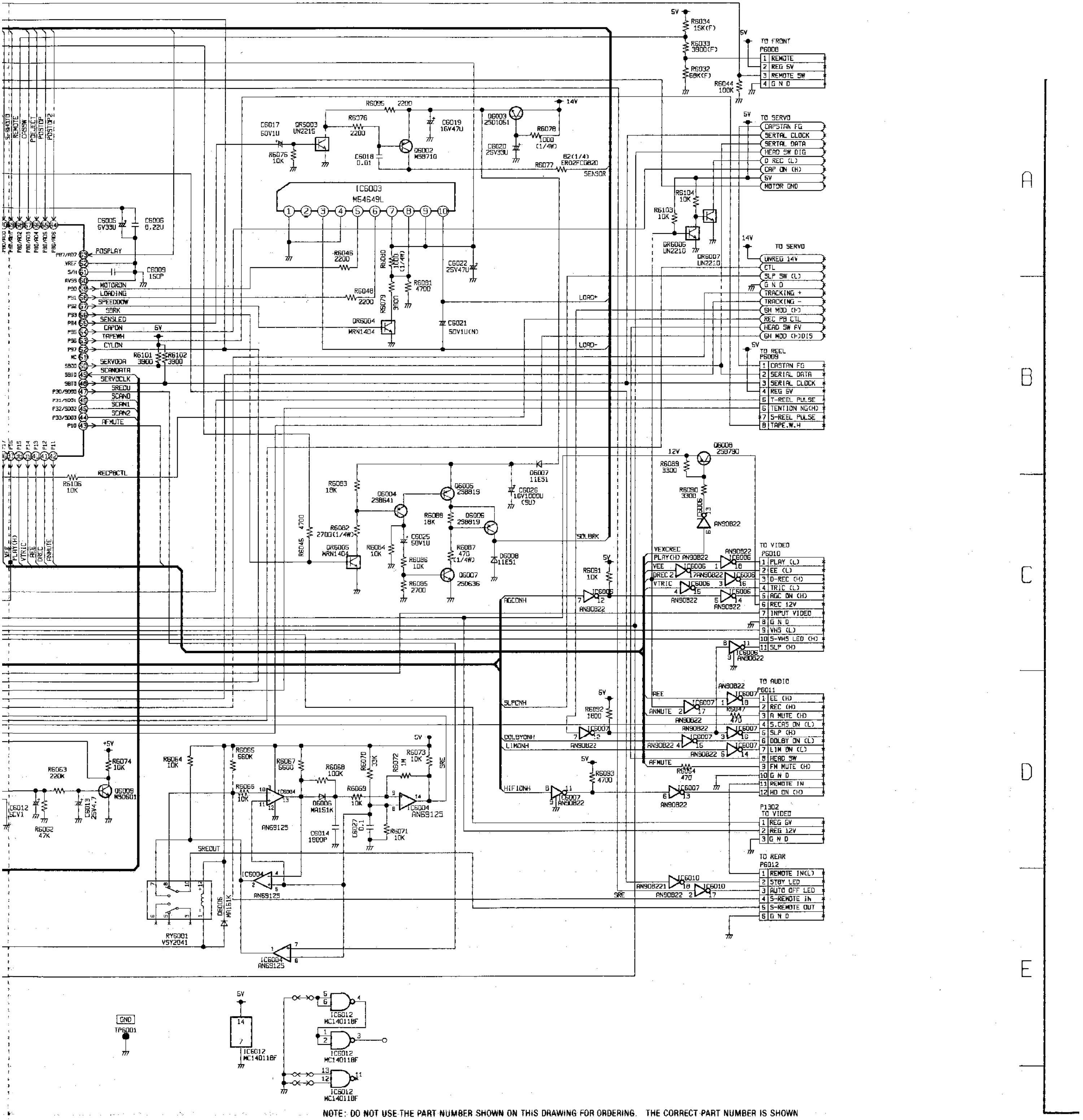
SYSTEM CONTROL SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
TO I/O P6014
REG 12V
G N D
EE (L)
FORCE DSP(L)
CYL ON (L)
(NOT INSERT)
P6016
CAS IN SW
G N D
FPC CONNECTER P2006
TO MECA
LOAD M -
LOAD M +
POS STOP 2
POS STOP
POS EJECT
POS PLAY
NC
TO MECA P6002
CAS.SW
S-PHOTO
T-PHOTO
TO MECA P6003
S.CAS GND
S.CAS (H)
REEL SOL BRK
SENSOR LED
SYSTEM CONTROL SUB C.B.A.(VEP00Q58A)
IC2301 MC14538BCP
IC6012 MC14011BF
IC6010 AN90B22
IC6008 AN90B22
IC6009 AN90B22
IC6002 MN1280-R
IC6001 MN188166VUI
FROM 34P P6004
REC SW ON(L)
PLAY SW ON(L)
FF SW ON(L)
REW SW ON(L)
STOP SW ON(L)
PAUSE SWON(L)
TO 34P P6005
EJECT SWON(L)
CAS IN (L)
REEL PULSE
REG 12V
PAUSE HOLD(L)
STOP HOLD (L)
REW HOLD (L)
FF HOLD (L)
PLAY HOLD(L)
REC HOLD (L)
TO AUTO CHANGER P6006
UNREG 23V
REG 5V
CAS IN (L)
CAS OUT (L)
AUTO OFF (L)
EJECT 1 (L)
TAPE RUN
START (L)
P1301 TO POWER CN(1)
SYSCON 12V
UNREG 14V
REG 12V
MORTOR GND
REG 5.3V
REG 5V
UNREG 23V
TO FRONT P6007
RUN LED
REC LED
EJECT/A.OFF.LED
AGC ON
HIFI ON
LIM ON
DOLBY ON
S-VHS ON
SLP ON
REG 12V
EJECT SW (L)
TIMER ON
TO DC P6015
DC NG (L)
DC CHECK (L)
HD ON (L)
+5V
AD CLEAR (L)
AUTO OFF (L)
QR6008 MRN1402
QR6009 MRN1402
QR6010 MRN1402
QR6011 MRN1402
QR6012 MRN1402
D6004 ERA81004
C6028 6V1000 (SU)
TO MODE SELECT P6013 VJS1410
SCAN DATA
SCAN0
VHS (L)
SCAN1
SCAN2
TRACKING +
TRACKING -
BUFFER ON (L)
TENTION MEGO
SLP ON
H.SW
AGC ON
DOLBY ON
HIFI ON
LIM ON
Q6001 M5B709
D6003 MA153
Q6009 M50601
TP6001
FFSW
REWSW
PLAYSW
RECSW
PAUSESW
FRONT.E
ANREMOTE
NOVIDEO
DCNG(L)
DCCHECKH
ADCLEARH
AGCON
SLPON
DOLBYON
LIMON
HIFION
STOPHOLD
RECLED
PAUSLED
POSPLAY
MOTORON
LOADING
SPEEDDOW
SDRK
SENSLED
CAPON
TAPEWH
CYLON
SERVODA
SCANDATA
SERVOCLK
SREOU
SCAN0
SCAN1
SCAN2
AFMUTE
RECPBCTL
EJECTSW
REPO
TAPERUN
CASIN
CASOUT
AUTOOFF
START
REC
AUEJECT
PLAYLED
REWLED
FFLED
TREPO
TENTION
CASINEW
VEXCREC
VTRIC
DALC
AHMUTE
X6001 8MHZ VSX230
RY6 VSY2

IC INFORMATION

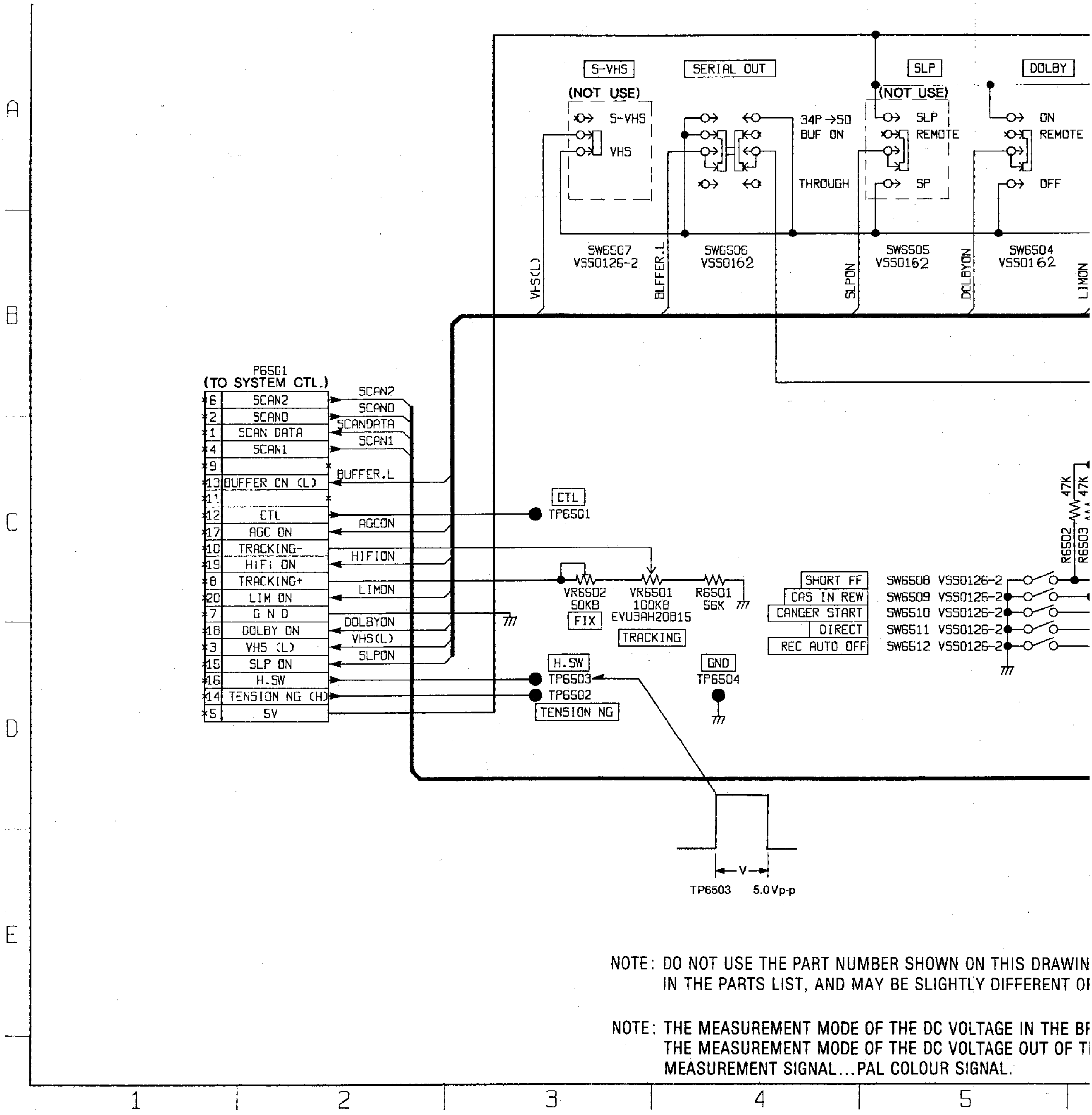
IC6003 M54649L


METER DETECT
MUTE CONTROL
AMP
COMP
AMP
AMP
COMP
AMP
MUTE ①
OUT1 ②
DET1 ③
IN1 ④
GND ⑤
IN2 ⑥
DET2 ⑦
OUT2 ⑧
VCC ⑨


IC6003
M54649L
TO FRONT
P6008
1 REMOTE
2 REG 5V
3 REMOTE SW
4 G N D
TO SERVO
CAPSTAN FG
SERIAL CLOCK
SERIAL DATA
HEAD SW DIG
D REC (L)
CAP ON (H)
5V
MOTOR GND
TO SERVO
UNREG 14V
CTL
SLP SW (L)
G N D
TRACKING +
TRACKING -
GH MOD (H)
REC PB CTL
HEAD SW FV
GH MOD (H)DIS
TO REEL
P6009
1 CAPSTAN FG
2 SERIAL DATA
3 SERIAL CLOCK
4 REG 5V
5 T-REEL PULSE
6 TENTION NG(H)
7 S-REEL PULSE
8 TAPE.W.H
TO VIDEO
P6010
1 PLAY (L)
2 EE (L)
3 D-REC (H)
4 TRIC (L)
5 AGC ON (H)
6 REC 12V
7 INPUT VIDEO
8 G N D
9 VHS (L)
10 S-VHS LED (H)
11 SLP (H)
TO AUDIO
P6011
1 EE (H)
2 REC (H)
3 A MUTE (H)
4 S.CAS ON (L)
5 SLP (H)
6 DOLBY ON (L)
7 LIN ON (L)
8 HEAD SW
9 FM MUTE (H)
10 G N D
11 REMOTE IN
12 HD ON (H)
P1302
TO VIDEO
1 REG 5V
2 REG 12V
3 G N D
TO REAR
P6012
1 REMOTE IN(L)
2 STBY LED
3 AUTO OFF LED
4 S-REMOTE IN
5 S-REMOTE OUT
6 G N D
POSPLAY
MOTORON
LOADING
SPEEDDOW
SDRK
SENSLED
CAPON
TAPEWH
CYLON
SERVODA
SCANDATA
SERVOCLK
SREOU
SCAN0
SCAN1
SCAN2
AFMUTE
RECPBCTL
LOAD+
LOAD-
SOLBRK
AGCONH
SLPCNH
DOLBYONH
LIMONH
HIFIONH
SREOUT
AN90B22
AN69125
MC14011BF
RY6001
VSY2041
GND
TP6001
A
B
C
D
E
9
10
11
12
13
14
15
16

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

MODE SELECT SCHEMATIC DIAGRAM

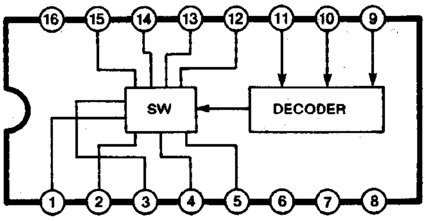

A
B
C
D
E
1
2
3
4
5
S-VHS
(NOT USE)
S-VHS
VHS
SERIAL OUT
34P →SD
BUF ON
THROUGH
SLP
(NOT USE)
SLP
REMOTE
SP
DOLBY
ON
REMOTE
OFF
SW6507
VSS0126-2
SW6506
VSS0162
SW6505
VSS0162
SW6504
VSS0162
VHS(L)
BUFFER.L
SLPON
DOLBYON
LIMON
P6501
(TO SYSTEM CTL.)
6 SCAN2
2 SCAN0
1 SCAN DATA
4 SCAN1
9
13 BUFFER ON (L)
11
12 CTL
17 AGC ON
10 TRACKING-
19 HiFi ON
8 TRACKING+
20 LIM ON
7 G N D
18 DOLBY ON
3 VHS (L)
15 SLP ON
16 H.SW
14 TENSION NG (H)
5 5V
SCAN2
SCAN0
SCANDATA
SCAN1
BUFFER.L
AGCON
HIFION
LIMON
DOLBYON
VHS(L)
SLPON
CTL
TP6501
VR6502
50KB
FIX
VR6501
100KB
EVU3AH20B15
TRACKING
R6501
56K
H.SW
TP6503
TP6502
TENSION NG
GND
TP6504
SHORT FF
CAS IN REW
CANGER START
DIRECT
REC AUTO OFF
SW6508 VSS0126-2
SW6509 VSS0126-2
SW6510 VSS0126-2
SW6511 VSS0126-2
SW6512 VSS0126-2
R6502 47K
R6503 47K
V
TP6503
5.0Vp-p

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWIN
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OI

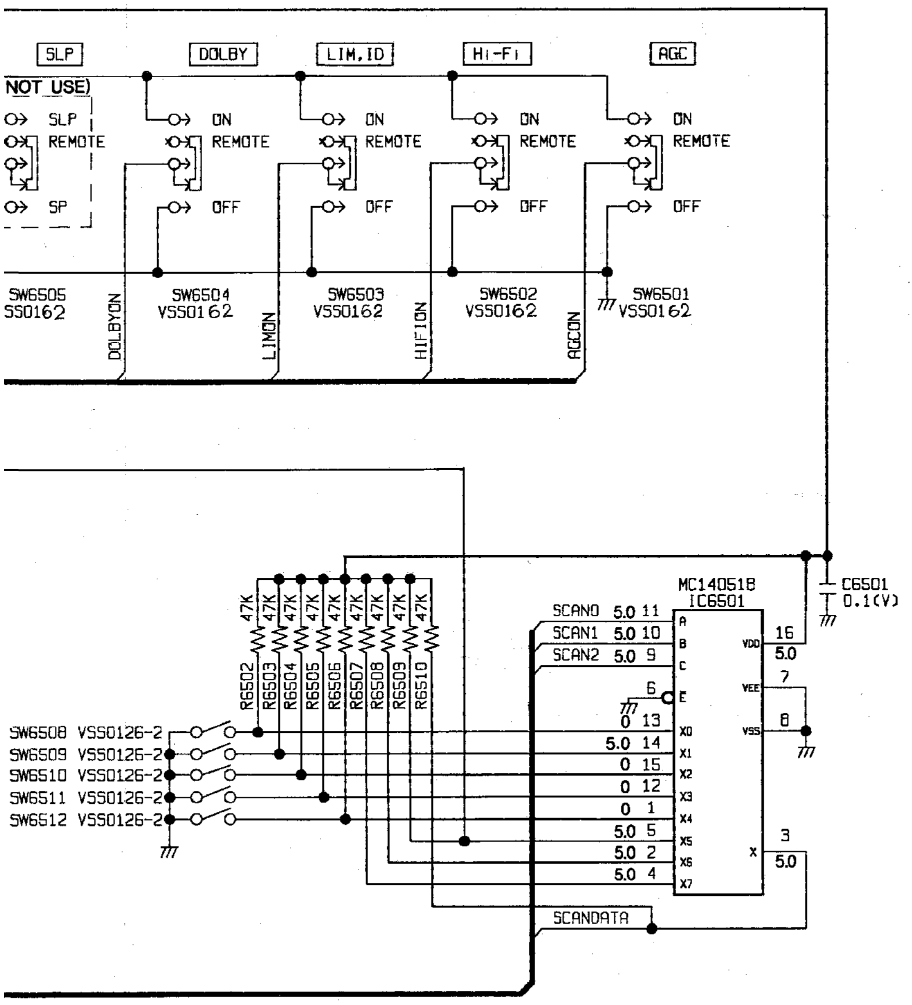
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BF
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF TI
MEASUREMENT SIGNAL...PAL COLOUR SIGNAL.

IC INFORMATION

IC6501 MC14051B



16
15
14
13
12
11
10
9
SW
DECODER
1
2
3
4
5
6
7
8



SLP
DOLBY
LIM.ID
Hi-Fi
AGC
NOT USE)
SLP
REMOTE
SP
ON
REMOTE
OFF
SW6505
SS0162
SW6504
VSS0162
SW6503
VSS0162
SW6502
VSS0162
SW6501
VSS0162
DOLBYON
LIMON
HIFION
AGCON
MC14051B
IC6501
C6501
0.1(V)
SCAN0 5.0 11
SCAN1 5.0 10
SCAN2 5.0 9
A
B
C
E
6
VDD
VEE
VSS
16
5.0
7
8
X0
X1
X2
X3
X4
X5
X6
X7
X
0 13
5.0 14
0 15
0 12
0 1
5.0 5
5.0 2
5.0 4
3
5.0
SCANDATA
47K
R6502
R6503
R6504
R6505
R6506
R6507
R6508
R6509
R6510
SW6508 VSS0126-2
SW6509 VSS0126-2
SW6510 VSS0126-2
SW6511 VSS0126-2
SW6512 VSS0126-2

ER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
. COLOUR SIGNAL.

5 | 6 | 7 | 8

SYSTEM CONTROL ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	5.0	5.0	5.0	5.0	5.0	0	0	5.0	0	0	5.0	0	0	0	5.0	0	5.0	4.8	0
REC	5.0	5.0	5.0	5.0	5.0	5.0	0	0	5.0	0	0	5.0	0	0	0	5.0	0	5.0	0	4.8
FF	5.0	5.0	5.0	5.0	5.0	5.0	0	0	5.0	0	0	5.0	0	0	0	5.0	0	5.0	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	4.2	0	0	5.0	0	0	2.6	—	0	0	5.0	0	4.7	0	0	0
REC	0	4.8	0	0	4.2	0	5.0	5.0	0	0	2.6	—	0	0	5.0	4.8	4.7	0	0	0
FF	0	0	0	4.8	2.1	0	5.0	5.0	0	0	2.6	—	0	0	5.0	0	4.7	0	0	0

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.7	0.1	0.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0	0	0	0	0.4	0.1	0	0	0	0
REC	0.1	0.1	0.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0	4.7	0	5.0	0.4	0.1	0	0	0	0
FF	4.7	0.1	0.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0	4.7	0	0	0.4	0.1	0	0	0	0

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	4.9	0	5.0	5.0	0	5.0	2.5	3.7	5.0	5.0	5.0	5.0	5.0	0	0	0	4.9	0	0	0
REC	4.9	0	0	5.0	5.0	5.0	2.5	3.7	5.0	5.0	5.0	5.0	5.0	0	0	0	4.9	0	0	4.9
FF	4.9	0	0	5.0	0.7	5.0	2.5	3.7	5.0	5.0	5.0	5.0	5.0	4.9	0	0	4.9	0	4.9	0

REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	0	5.0	5.0																
REC	0	0	5.0	5.0																
FF	0	0	5.0	5.0																

REF. NO.	IC6002										IC6003									
MODE	1	2	3								1	2	3	4	5	6	7	8	9	10
STOP	5.0	5.0	0								0	0.2	0.2	0	0	0	11.8	9.8	11.8	0.2
REC	5.0	5.0	0								0	0.2	0.2	0	0	0	11.8	9.8	11.8	0.2
FF	5.0	5.0	0								0	0.2	0.2	0	0	0	11.8	9.8	11.8	0.2

REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	5.0	5.0	5.0	0.1	1.1	1.1	5.0	1.1	0.1	4.7	1.1	0	0.1	0.1						
REC	5.0	5.0	5.0	0.1	1.1	1.1	5.0	1.1	0.1	4.7	1.1	0	0.1	0.1						
FF	5.0	5.0	5.0	0.1	0	1.1	5.0	1.1	0.1	4.7	1.1	0	0.1	0.1						

REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	5.0	5.0	0	0	0	0	0	0	0	0	10.3	10.3	0.9	0.9	0				
REC	0	5.0	5.0	0	0	0	0	0	0	0	0	10.3	10.3	0.9	0.9	0				
FF	0	5.0	5.0	0	0	0	0	0	0	0	0	10.3	10.3	0.9	0.9	0				

REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	0	4.7	4.7	0	0	0	5.0	3.1	0	0	0	0	12.2	3.6	5.0	0	0.1	5.0		
REC	0	4.7	0.1	0	0	4.8	5.0	3.1	0	0	0	0	0.1	3.6	5.0	5.0	0.1	5.0		
FF	0	4.7	4.7	0	0	0	5.0	3.1	0	0	0	0	12.2	3.6	5.0	0	0.1	5.0		

REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	0	4.7	3.1	0	0	0	0	5.0	0	0	0	3.1	4.3	3.7	5.1	0	0	3.6		
REC	0	0.1	3.1	0	0	0	0	5.0	0	0	0	3.1	4.3	3.7	5.1	0	4.2	3.6		
FF	0	4.7	3.1	0	0	0	0	5.0	0	0	0	3.1	4.3	3.7	5.1	0	0	3.6		

REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	4.9	4.3	0	4.8	0	0	0	0	0	0	10.1	10.1	10.1	10.1	0	10.1	10.7	0		
REC	4.9	4.3	0	0	0	0	4.8	4.8	0	0	0.3	0.3	10.0	10.0	0	10.0	10.7	0		
FF	4.9	2.1	0	0	0	4.8	0	0	0	0	10.1	10.1	0.3	10.2	0	10.1	5.8	0		

REF. NO.	IC6009																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	0	0	0	0	0	0	0	4.9	0	0	0	5.0	5.0	5.0	10.3	10.6	10.5	0.6		
REC	4.7	0	4.9	4.9	0	0	0	4.9	0	0	0	5.0	5.0	5.0	10.3	0.3	10.5	0		
FF	4.7	0	0	4.9	0	0	0	4.9	0	0	0	5.0	5.0	5.0	0.3	10.6	10.5	0		

REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	0	0	2.1	2.1	0.1	4.7	0	0	0	0	0	0	0	0	0	0.1	0	0		
REC	0	0	2.1	2.1	0.1	4.7	0	4.7	0	0	0	0	0	0	0	0.1	0	0		
FF	4.9	0	2.1	2.1	0.1	4.7	0	4.7	0	0	0	0	0	0	0	0.1	0	0		

REF. NO.	IC6012																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	5.0	5.0	0	5.0	0	0	0	0	0	4.6	5.0	0	0	5.0						
REC	5.0	5.0	0	0	0	0	0	0	5.0	0	5.0	0	0	5.0						
FF	0	5.0	0	5.0	0	0	0	0	0	4.6	5.0	0	0	5.0						

REF. NO.	IC2301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	11.7	11.8	10.7	11.8	0	11.8	0	0	0	0	0	0	0	0	11.8				
REC	0	11.7	11.8	10.7	11.8	0	11.8	0	0	0	0	0	0	0	0	11.8				
FF	0	8.3	11.8	5.6	11.8	3.2	8.7	0	0	0	0	0	0	0	0	11.8				

SYSTEM CONTROL TRs DC VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.0	1.0	4.6	12.9	1.6	12.8	12.9	13.5	13.4	12.2	0	12.6	12.6	0	12.2	0	0	0
REC	5.0	0	4.6	12.9	1.6	12.8	12.8	13.5	13.4	12.2	0	12.6	12.6	0	12.2	0	0	0
FF	5.0	1.0	4.6	12.9	1.6	12.8	12.8	13.5	13.4	12.2	0	12.6	12.6	0	12.2	0	0	0
REF. NO.	Q6007			Q6008			Q6009											
MODE	E	C	B	E	C	B	E	C	B									
STOP	0	0	0	12.2	0.1	12.3	0	0	0.6									
REC	0	0	0	12.2	12.2	11.5	0	0	0.6									
FF	0	0	0	12.2	0.1	12.3	0	0	0.6									
REF. NO.	QR6003			QR6004			QR6005			QR6006			QR6007			QR6008		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	12.1	−0.3	0	9.8	0	0	12.6	0.1	0	0	4.7	0	5.0	0	0	0	5.0
REC	0	12.1	−0.3	0	9.8	0	0	12.6	0.1	0	4.1	0.1	0	0	4.1	0	0	5.0
FF	0	12.3	−0.3	0	9.8	0	0	12.6	0.1	0	0	4.7	0	5.0	0	0	0	5.0
REF. NO.	QR6009			QR6010			QR6011			QR6012								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	2.9	0	0	0	2.9	0	0	0	0	0	0						
REC	0	2.9	0	0	0	2.9	0	0	0	0	0	0						
FF	0	0	4.9	0	0	0	0	0	0	0	0	0						

SYSTEM CONTROL & SERVO C.B.A., REAR JACK (1) C.B.A., 34P CONNECTION C.B.A., MODE SELECT C.B.A., MOTOR BASE C.B.A., REMOTE CONTROL JACK C.B.A., 9P CONNECTION C.B.A., FRONT (1) C.B.A. AND SUB SYSTEM CONTROL C.B.A.

Transistors	
Q2001	G-3
Q2002	F-1
Q2003	F-2
Q2004	F-1
Q2005	F-1
Q6001	C-1
Q6002	C-6
Q6003	C-6
Q6004	C-6
Q6005	C-6
Q6006	C-6
Q6007	C-6
Q6008	C-2
Q6009	C-2

Transistors & Resistors	
QR2001	E-2
QR6003	C-6
QR6004	D-4
QR6005	C-6
QR6006	D-3
QR6007	E-3
QR6008	F-7
QR6009	G-6
QR6010	G-6
QR6011	E-6
QR6012	E-7
QR6901	A-8

Integrated Circuits	
IC2001	F-3
IC2002	F-2
IC2003	E-1
IC2004	D-2
IC2005	D-2
IC2006	D-1
IC2007	E-3
IC2008	G-3
IC2010	F-1
IC2011	E-2
IC2012	D-2
IC2013	E-2
IC2014	E-1
IC2301	B-11
IC6001	F-5
IC6002	G-5
IC6003	D-5
IC6004	E-3
IC6005	F-6
IC6006	C-2
IC6007	C-3
IC6008	C-4
IC6009	F-6
IC6010	E-6
IC6012	C-5
IC6501	E-9
IC20001	B-8

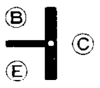
Test Points	
TP2001	G-4
TP2002 (GND)	C-1
TP2003	F-3
TP2004	F-2
TP6001 (GND)	C-4
TP6501	F-8
TP6502	F-8
TP6503	F-9
TP6504	F-9

Adjustments	
VR2001	D-3
VR2002	D-3
VR6501	F-10
VR6502	F-9
VR6601	D-13
VR6602	D-12
VR6603	D-12
VR6604	D-12

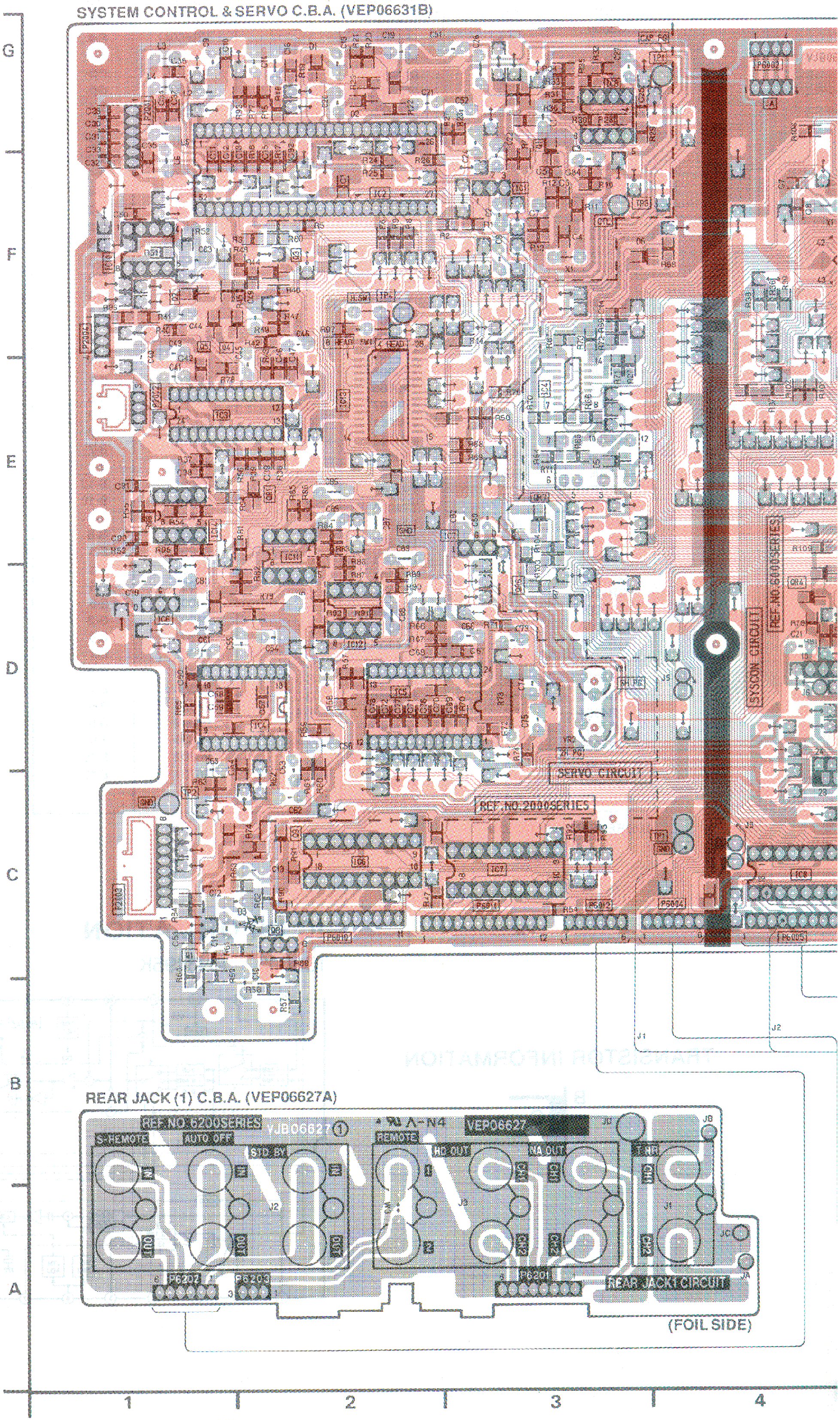
Connectors	
P1301	C-5
P1302	C-5
P2001	G-1
P2002	E-1
P2003	C-1
P2004	F-1
P2005	D-5
P6002	G-4
P6003	C-6
P6004	C-4
P6005	C-4
P6006	G-6
P6007	F-6
P6008	D-6
P6009	C-6
P6010	C-2
P6011	C-3
P6012	C-3
P6013	D-6
P6014	F-7
P6015	E-7
P6201	A-3
P6202	A-1
P6203	A-2
P6501	D-8
P6551	A-6
P6552	A-5
P6601	D-12
P6602	E-12
P6603	E-13
P6801	G-11
P6901	B-8
P20001	C-9
P20002	B-8
P20005	C-9
P20006	C-9
P20007	C-9

ADDRESS INFORMATION

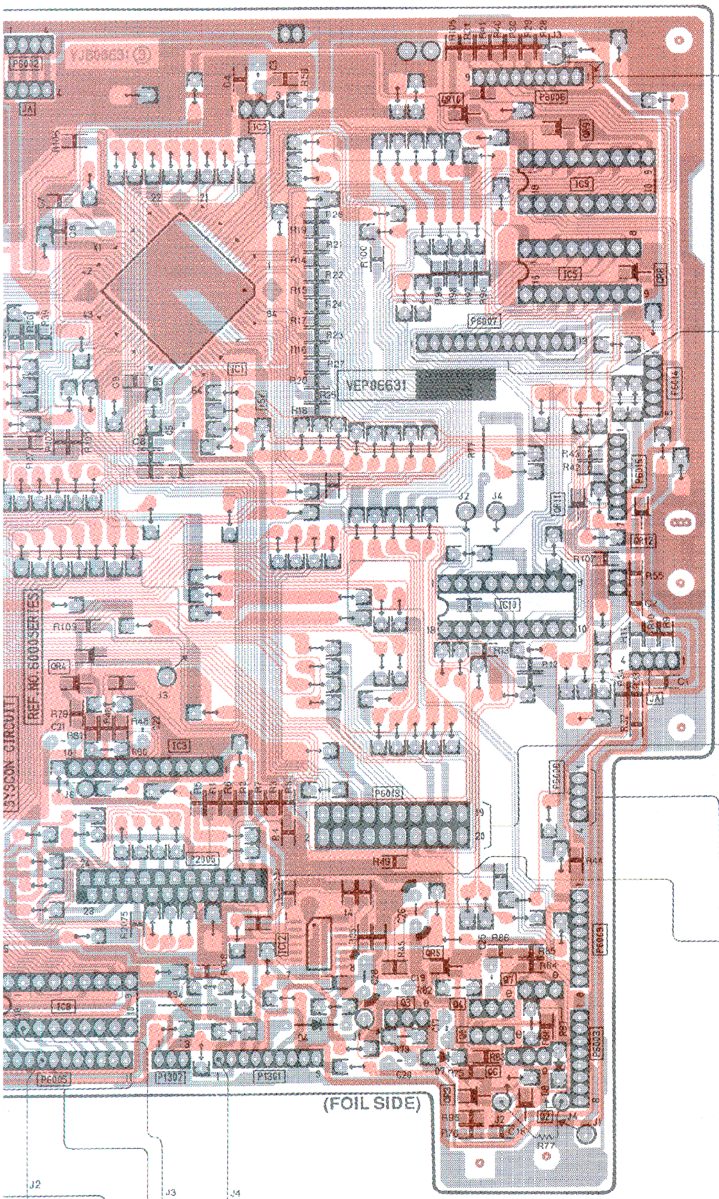
TRANSISTOR INFORMATION



SYSTEM CONTROL & SERVO C.B.A. (VEP06631B), REAR JA
(VEP00P76A), REMOTE CONTROL JACK C.B.A. (VEP06625B)


SYSTEM CONTROL & SERVO C.B.A. (VEP06631B)
SERVO CIRCUIT
SYSCON CIRCUIT
REF.NO.2000SERIES
REF.NO.6000SERIES
REAR JACK (1) C.B.A. (VEP06627A)
REF.NO.6200SERIES
YJB06627
VEP06627
S-REMOTE
AUTO OFF
STD. BY
REMOTE
HD OUT
NA OUT
REAR JACK1 CIRCUIT
(FOIL SIDE)
G
F
E
D
C
B
A
1
2
3
4

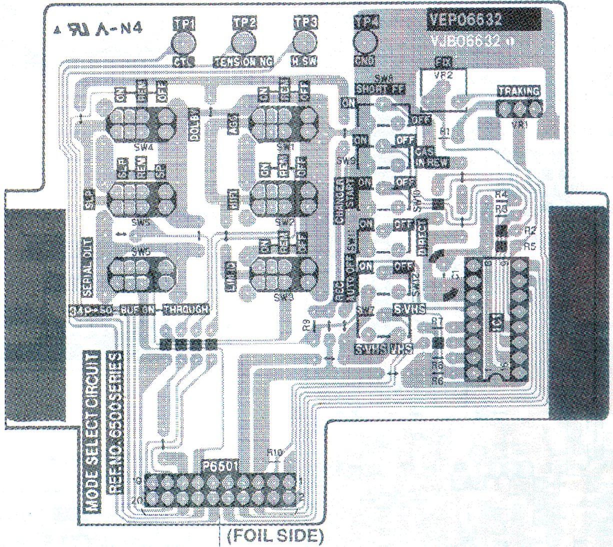
ꓤR JACK (1) C.B.A. (VEP06627A), 34P CONNECTION C.B.A. (VEP06630B), MC
625B), 9P CONNECTION C.B.A. (VEP06626A), FRONT (1) C.B.A. (VEP06621A)



VEP06631
SYSCON CIRCUIT
REF.NO.6000SERIES
IC1
IC3
IC5
IC13
P6027
P6018
P2300
P6005
P1302
P1361

(FOIL SIDE)

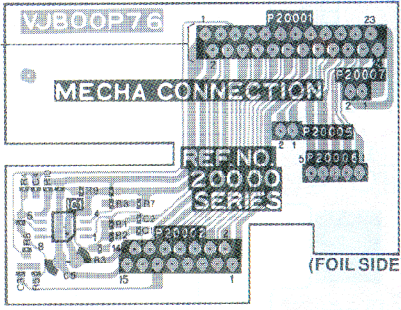
MODE SELECT C.B.A. (VEP06632A)



VEP06632
VJB06632
TP1
TP2
TP3
TP4
CTL
TENSION NG
H SW
GND
SHORT FF
VR2
TRAKING
VR1
SW4
SW1
SW5
SW2
SW6
SW3
SW7
SW8
SW9
SERIAL OUT
DOLBY
34P ↔ 50 BUF ON THROUGH
S.VHS
S-VHS SQPB
DIRECT
MODE SELECT CIRCUIT
REF.NO.6500SERIES
P6501
IC1

(FOIL SIDE)

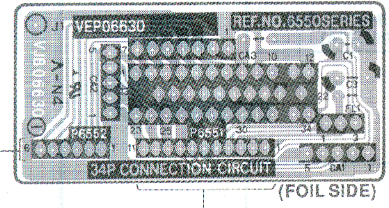
MOTOR BASE C.B.A. (VEP00P76A)



VJB00P76
P20001
P20007
P20005
P20006
P20002
MECHA CONNECTION
REF.NO.
20000
SERIES
IC1

(FOIL SIDE)

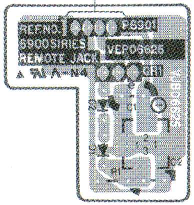
34P CONNECTION C.B.A. (VEP06630B)



VEP06630
REF.NO.6550SERIES
VJB06630
P6552
P6551
34P CONNECTION CIRCUIT

(FOIL SIDE)

REMOTE CONTROL JACK
C.B.A. (VEP06625B)

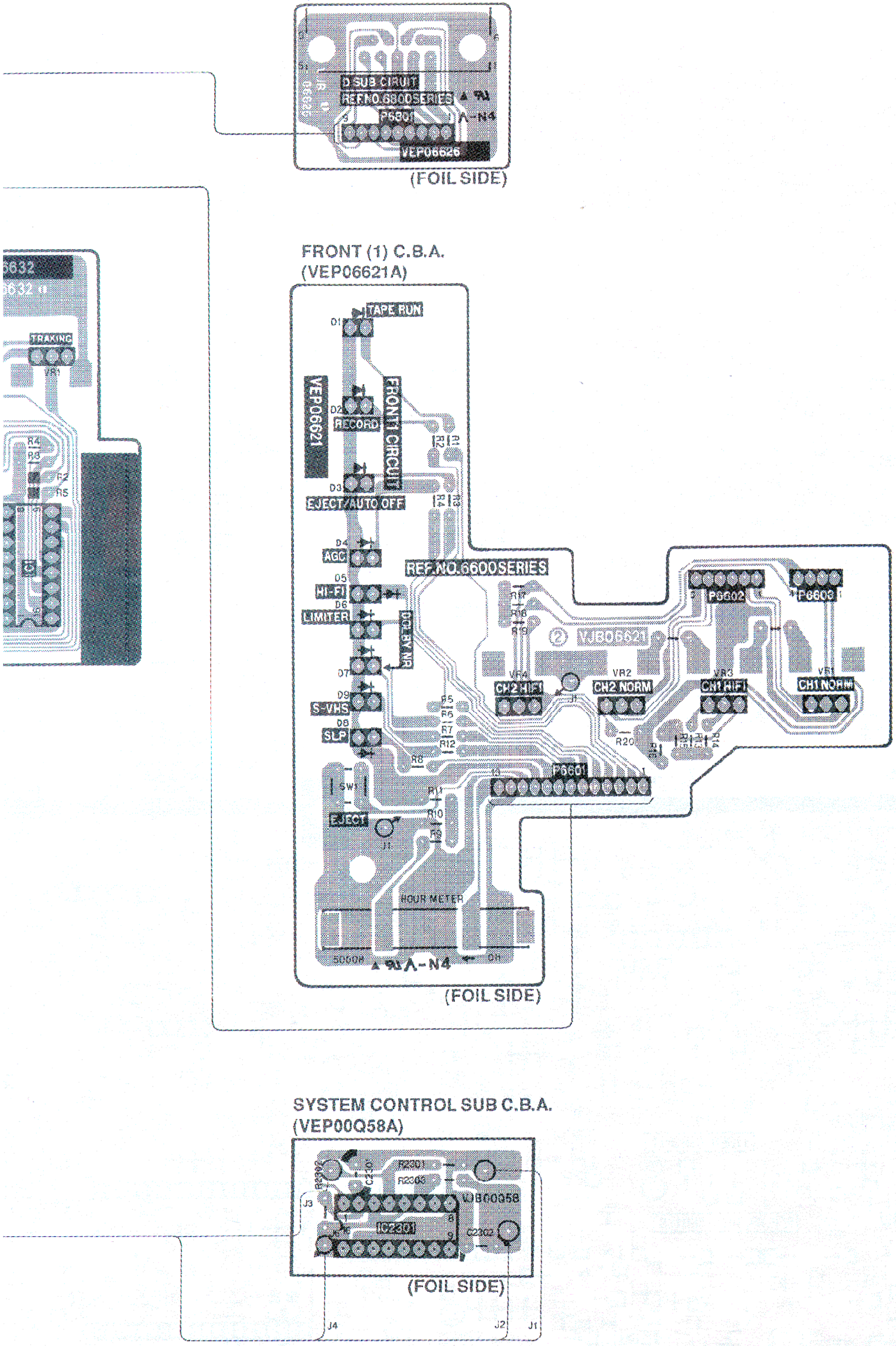


REF.NO.
6900SIRIES
REMOTE JACK
P6901
VEP06625
VJB06625

(FOIL SIDE)

4 5 6 7 8 9 10

630B), MODE SELECT C.B.A. (VEP06632A), MOTOR BASE C.B.A. EP06621A) AND SYSTEM CONTROL SUB C.B.A. (VEP00Q58A)



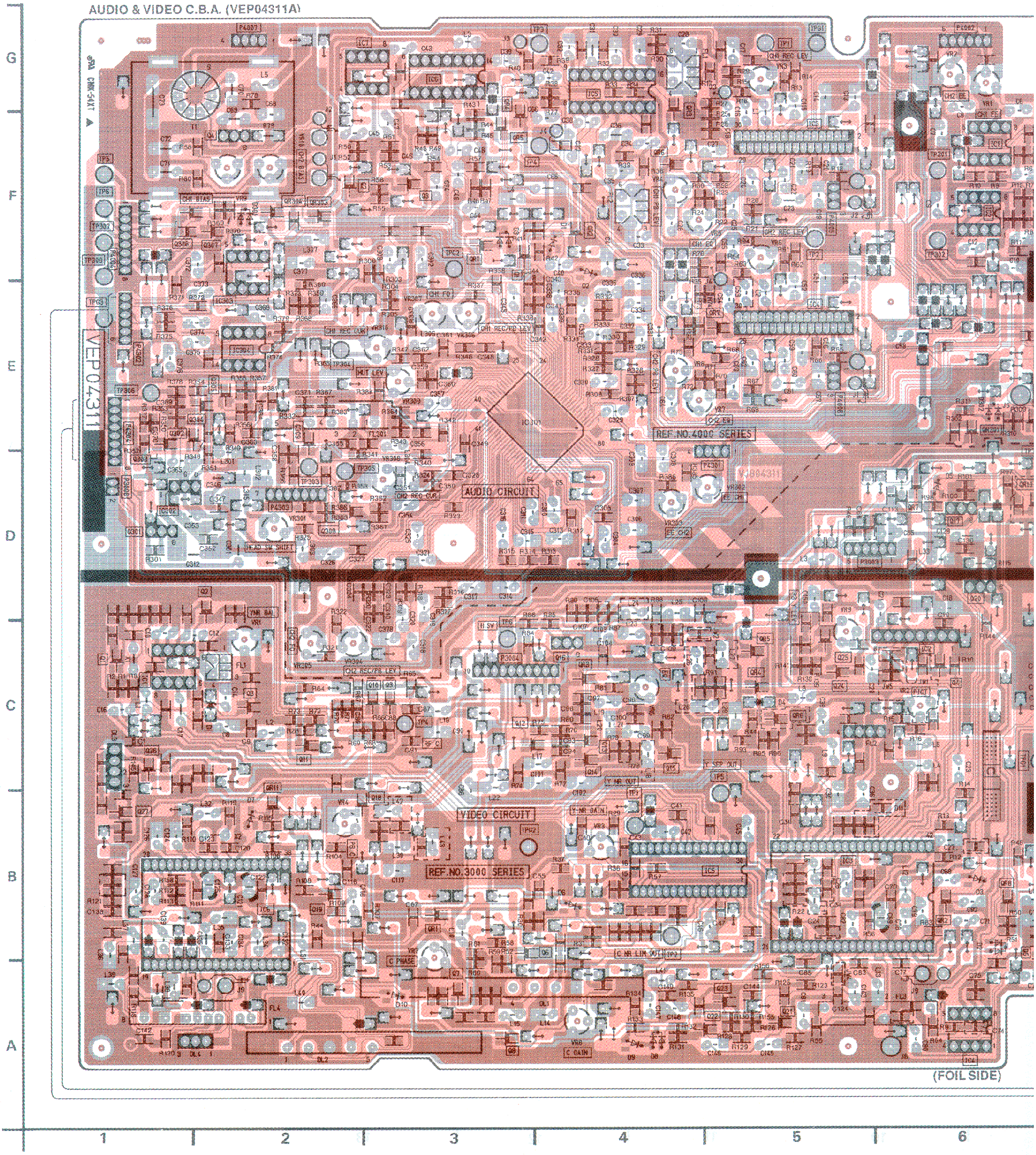
9P CONNECTION C.B.A.
(VEP06626A)

FRONT (1) C.B.A.
(VEP06621A)

SYSTEM CONTROL SUB C.B.A.
(VEP00Q58A)

D SUB CIRUIT
REF.NO.6800SERIES
P6801
VEP06626
(FOIL SIDE)
6632
TRAKING
VR1
R4
R3
R2
R5
IC1
TAPE RUN
D1
VEP06621
FRONT1 CIRCUIT
D2
RECORD
R1
R2
D3
EJECT/AUTO OFF
R3
R4
D4
AGC
D5
HI-FI
D6
LIMITER
DOLBY NR
D7
D9
S-VHS
D8
SLP
REF.NO.6600SERIES
R17
R18
R19
VJB06621
P6602
P6603
VR4
CH2 HIFI
VR2
CH2 NORM
VR3
CH1 HIFI
VR1
CH1 NORM
R5
R6
R7
R12
R20
R13
R14
R15
R16
R8
P6601
SW1
EJECT
R11
R10
R9
J1
HOUR METER
(FOIL SIDE)
R2302
C2301
R2301
R2303
J3
VJB00Q58
IC2301
C2302
(FOIL SIDE)
J4
J2
J1

AUDIO & VIDEO C.B.A. (VEP04311A), REAR JACK (2) C.B.A. (VEP06628A), MODULAR JACK C.B.A. (VEP04288B) AND ID DUMMY C.B.A. (VEP00Q72A)


AUDIO & VIDEO C.B.A. (VEP04311A)
G
F
E
D
C
B
A
1
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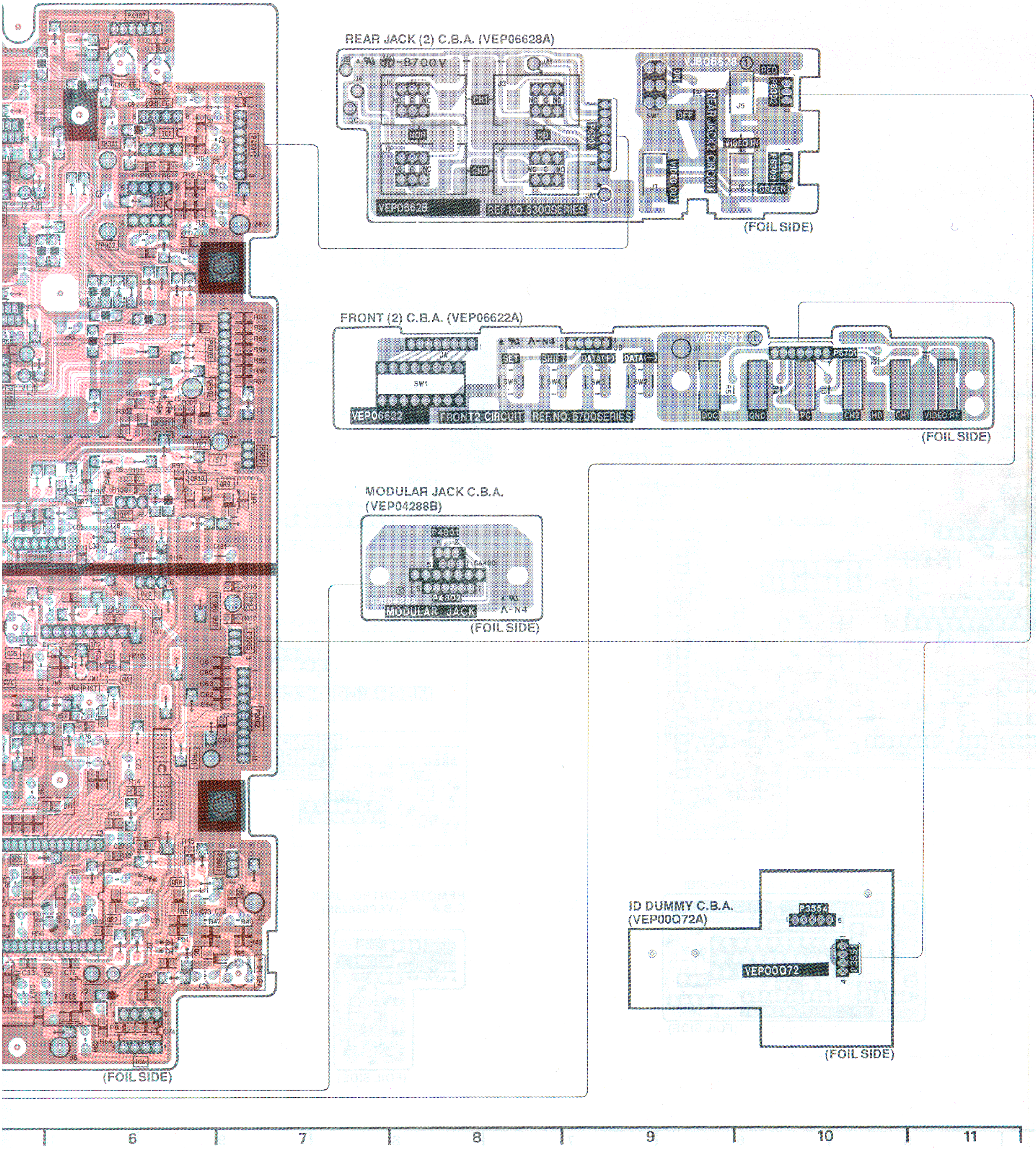
6
VEP04311
AUDIO CIRCUIT
REF.NO.4000 SERIES
VIDEO CIRCUIT
REF.NO.3000 SERIES
(FOIL SIDE)

(VEP06628A), FRONT (2) C.B.A. (VEP06622A),
A. (VEP00Q72A)


REAR JACK (2) C.B.A. (VEP06628A)
VEP06628
REF.NO.6300SERIES
VJB06628
REAR JACK2 CIRCUIT
RED
GREEN
VIDEO IN
VIDEO OUT
(FOIL SIDE)
FRONT (2) C.B.A. (VEP06622A)
VJB06622
VEP06622
FRONT2 CIRCUIT
REF.NO.6700SERIES
SET
SHIFT
DATA(+)
DATA(−)
DOC
GND
PG
CH2
HD
CH1
VIDEO RF
(FOIL SIDE)
MODULAR JACK C.B.A.
(VEP04288B)
P4801
P4802
VJB04288
MODULAR JACK
(FOIL SIDE)
ID DUMMY C.B.A.
(VEP00Q72A)
P3554
P3551
VEP00Q72
(FOIL SIDE)
(FOIL SIDE)
6
7
8
9
10
11

AUDIO & VIDEO C.B.A., MODULAR JACK C.B.A., FRONT (2) C.B.A. REAR JACK (2) C.B.A., AND ID DUMMY C.B.A.

Transistors	
Q3004	C-6
Q3005	A-6
Q3006	B-4
Q3009	C-3
Q3010	C-3
Q3011	C-2
Q3012	C-3
Q3013	C-4
Q3014	C-4
Q3015	C-4
Q3016	C-4
Q3017	D-6
Q3019	B-2
Q3020	D-6
Q3021	A-5
Q3022	A-5
Q3023	A-5
Q4001	F-3
Q4002	F-2
Q4003	F-3
Q4004	F-2
Q4301	D-1
Q4302	E-1
Q4303	D-1
Q4304	E-2
Q4305	E-2
Q4306	F-1
Q4307	F-2
Q4308	D-2
Q4309	E-2

Transistors & Resistors	
QR3001	B-3
QR3002	B-6
QR3003	C-4
QR3004	C-5
QR3005	C-5
QR3007	D-6
QR3008	B-6
QR3011	C-2
QR4001	F-3
QR4002	F-4
QR4003	F-4
QR4004	F-3
QR4005	F-3
QR4006	F-4
QR4007	E-5
QR4301	E-6
QR4302	E-6
QR4303	F-2
QR4304	F-2

Integrated Circuits	
IC3003	B-5
IC3004	A-6
IC3005	B-5
IC3006	D-2
IC4001	F-6
IC4002	F-6
IC4003	F-5
IC4004	E-5
IC4005	G-4
IC4006	G-3
IC4007	G-2
IC4301	E-3
IC4302	D-1
IC4303	E-2
IC4304	E-2

Test Points	
TP3001	B-4
TP3003	D-7
TP3004	C-3
TP3005	C-5
TP3006	C-3
TP3007	D-6
TP4001	G-5
TP4002	F-5
TP4003	G-4
TP4004	F-3
TP4005	F-1
TP4006	F-1
TP4301	F-6
TP4302	F-6
TP4303	D-2
TP4304	E-2
TP4305	D-3
TP4306	E-1
TP4307	F-1
TP4308	F-1
TPG3001	C-6
TPG3002	B-3
TPG4001	G-5
TPG4002	F-3
TPG4003	E-1

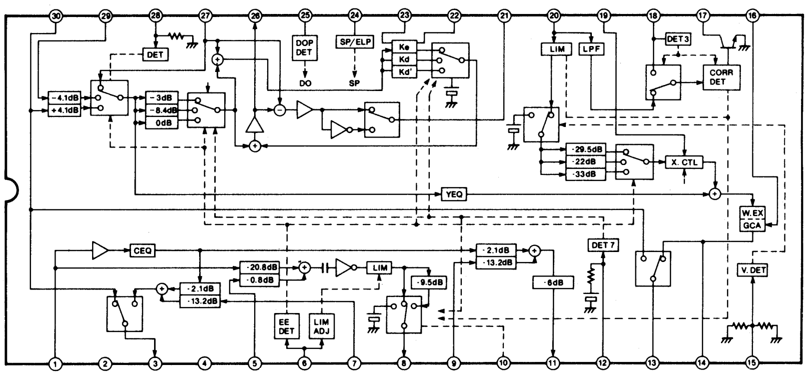
Adjustments	
VR3002	C-6
VR3003	B-4
VR3005	A-7
VR3006	C-4
VR4001	F-6
VR4002	G-6
VR4003	G-5
VR4004	F-4
VR4005	F-5
VR4006	F-5
VR4007	E-5
VR4008	E-4
VR4009	F-2
VR4010	F-2
VR4301	D-2
VR4302	D-5
VR4303	D-4
VR4304	C-2
VR4305	C-2
VR4306	E-3
VR4307	E-3
VR4308	D-3
VR4309	E-3
VR4310	E-3

Connectors	
P3001	D-7
P3002	C-7
P3003	D-5
P3004	C-3
P3006	C-7
P3007	B-7
P3008	D-1
P3551	B-10
P3554	B-10
P4001	F-7
P4002	G-6
P4003	E-6
P4004	F-1
P4005	F-5
P4006	E-5
P4007	G-2
P4301	D-5
P4302	E-1
P4303	D-2
P4304	E-1
P4801	D-8
P4802	D-8
P6301	F-9
P6302	F-10
P6701	E-10

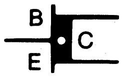
ADDRESS INFORMATION

IC INFORMATION

IC3005 AN3495K

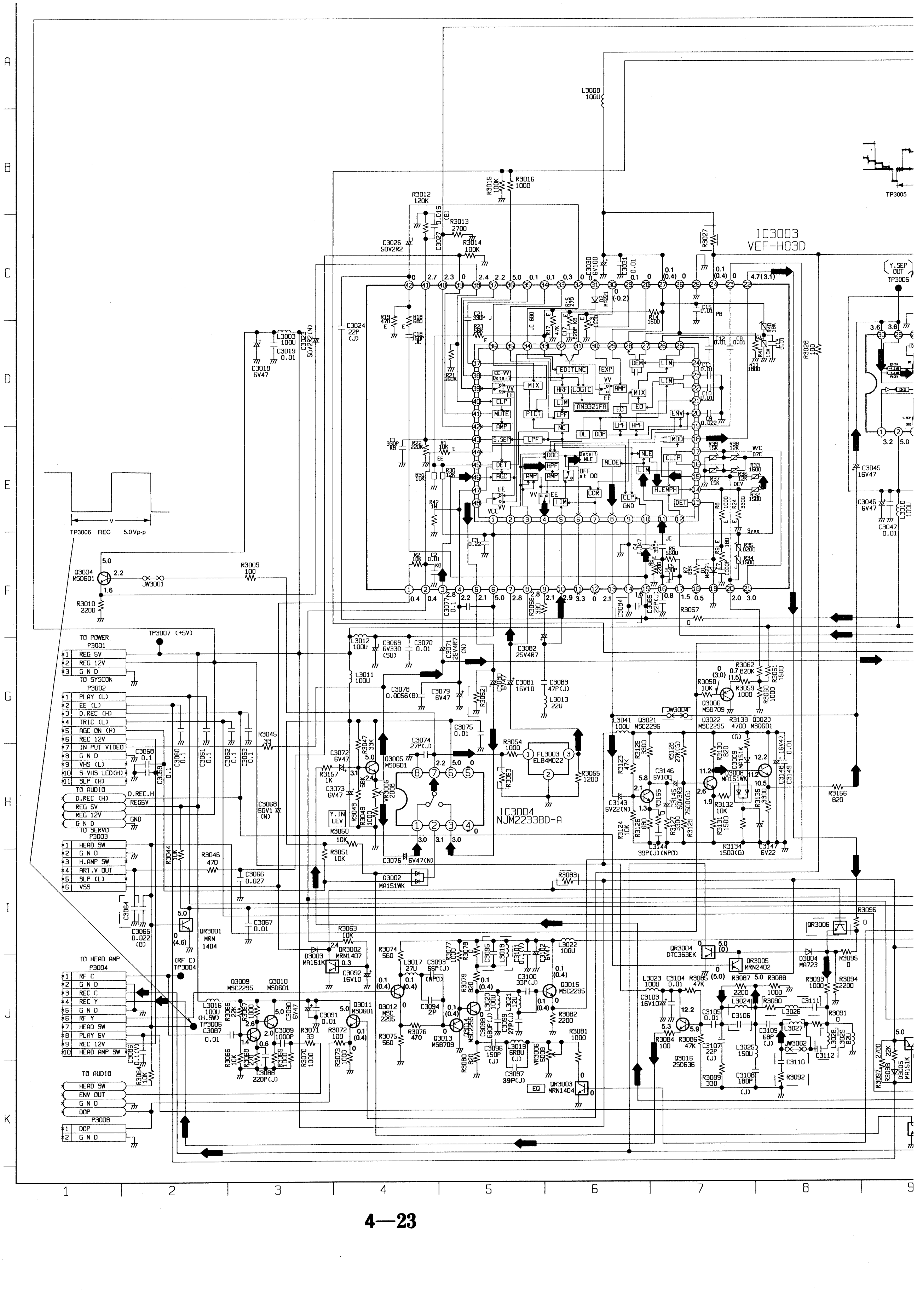

30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
DET
DOP DET
DO
SP/ELP
SP
Ke
Kd
Kd'
LIM
LPF
DET 3
CORR DET
-4.1dB
+4.1dB
-3dB
-8.4dB
0dB
-29.5dB
-22dB
-33dB
X. CTL
YEQ
W.EX
GCA
CEQ
-20.8dB
-0.8dB
LIM
-9.5dB
-2.1dB
-13.2dB
-2.1dB
-13.2dB
-6dB
DET 7
V. DET
EE DET
LIM ADJ
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

TRANSISTOR INFORMATION

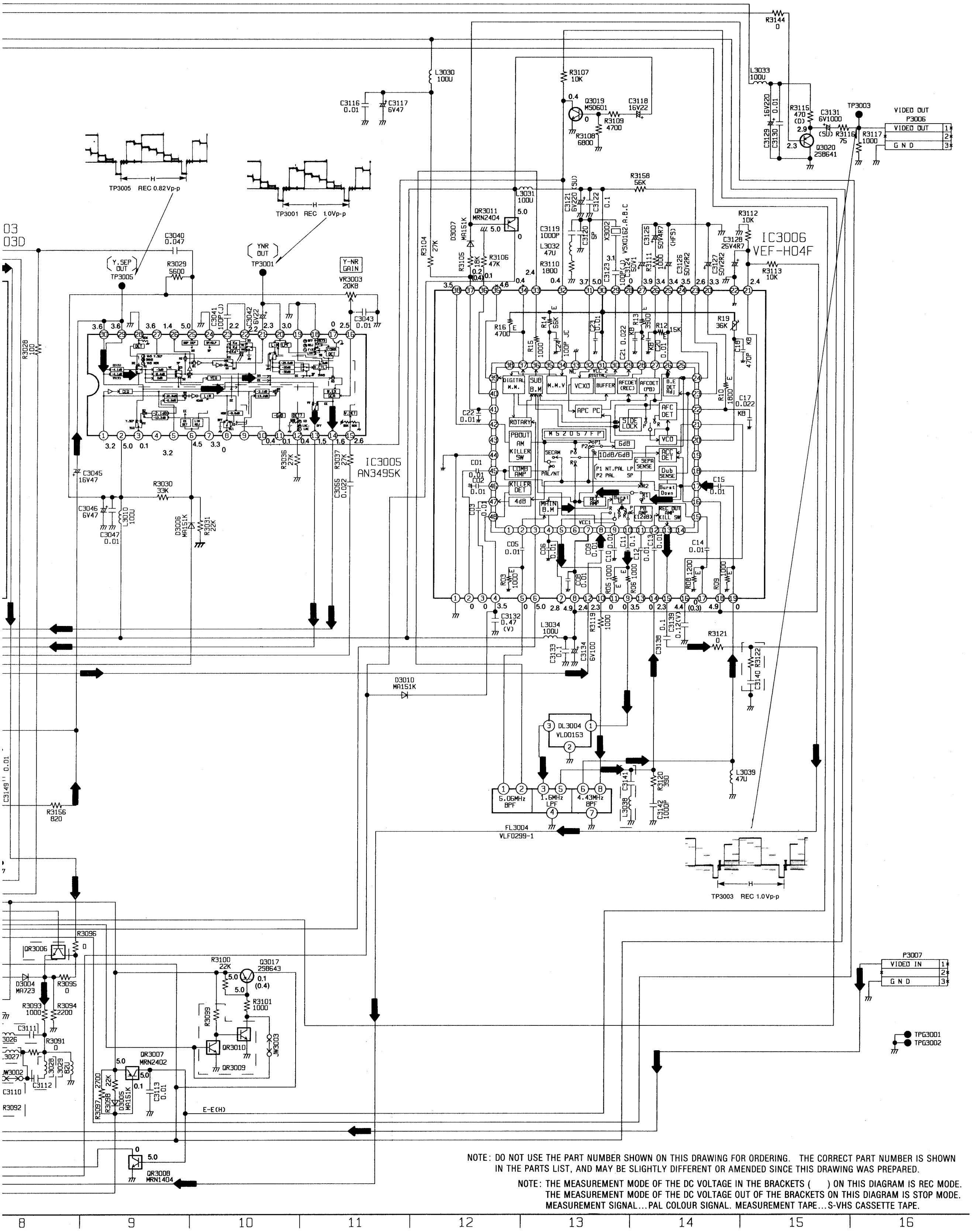


VIDEO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE


IC3003
VEF-H03D
IC3004
NJM2233BD-A
AN3321FA
FL3003
ELB4M022
TP3006 REC 5.0Vp-p
TP3005
TP3007 (+5V)
TP3004
TO POWER
P3001
REG 5V
REG 12V
GND
TO SYSCON
P3002
PLAY (L)
EE (L)
D.REC (H)
TRIC (L)
AGC ON (H)
REC 12V
IN PUT VIDEO
GND
VHS (L)
S-VHS LED(H)
SLP (H)
TO AUDIO
D.REC (H)
REG 5V
REG 12V
GND
TO SERVO
P3003
HEAD SW
GND
H.AMP SW
ART.V OUT
SLP (L)
VSS
TO HEAD AMP
P3004
RF C
GND
REC C
REC Y
GND
RF Y
HEAD SW
PLAY 5V
REC 12V
HEAD AMP SW
TO AUDIO
HEAD SW
ENV OUT
GND
DOP
P3008
DOP
GND
Q3004 MSD601
Q3005 MSD601
Q3006 MSB709
Q3009 MSC2295
Q3010 MSD601
Q3011 MSD601
Q3012 MSC2295
Q3013 MSB709
Q3015 MSC2295
Q3016 2SD636
Q3021 MSC2295
Q3022 MSC2295
Q3023 MSD601
QR3001 MRN1404
QR3002 MRN1407
QR3003 MRN1404
QR3004 DTC363EK
QR3005 MRN2402
QR3006
D3002 MA151WK
D3003 MA151K
D3004 MA723
D3008 MA151WK
JW3001
JW3002
JW3004
Y.SEP OUT
Y.IN LEV
EQ
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9

N REC MODE


TP3005 REC 0.82Vp-p
TP3001 REC 1.0Vp-p
TP3003 REC 1.0Vp-p
Y.SEP OUT TP3005
YNR OUT TP3001
Y-NR GAIN VR3003 20KB
IC3005 AN3495K
IC3006 VEF-H04F
M52057FP
DL3004 VL00153
FL3004 VLF0299-1
5.06MHz BPF
1.6MHz LPF
4.43MHz BPF
VIDEO OUT P3006
VIDEO OUT
GND
P3007
VIDEO IN
GND
TPG3001
TPG3002
Q3017 2SB643
Q3019 MS0601
Q3020 2SB641
QR3006
QR3007 MRN2402
QR3008 MRN1404
QR3009
QR3010
QR3011 MRN2404
D3004 MA723
D3005 MA151K
D3006 MA151K
D3007 MA151K
D3010 MA151K
X3002 VSX0162.A.B.C
DIGITAL M.M.
SUB B.M
M.M.V
VCXO
BUFFER
AFC DET (REC)
AFC DET (PB)
AFC PC
AFC DET
SIDE LOCK
VCO
ROTARY
PBOUT AM KILLER SW
COMB AMP
KILLER DET
4dB
6dB
10dB/6dB
C SEPA SENSE
Dub SENSE
ACC DET
Burst Down
MAIN B.M
PB AMP (12dB)
REC OUT AMP KILL SW
E-E(H)
8
9
10
11
12
13
14
15
16

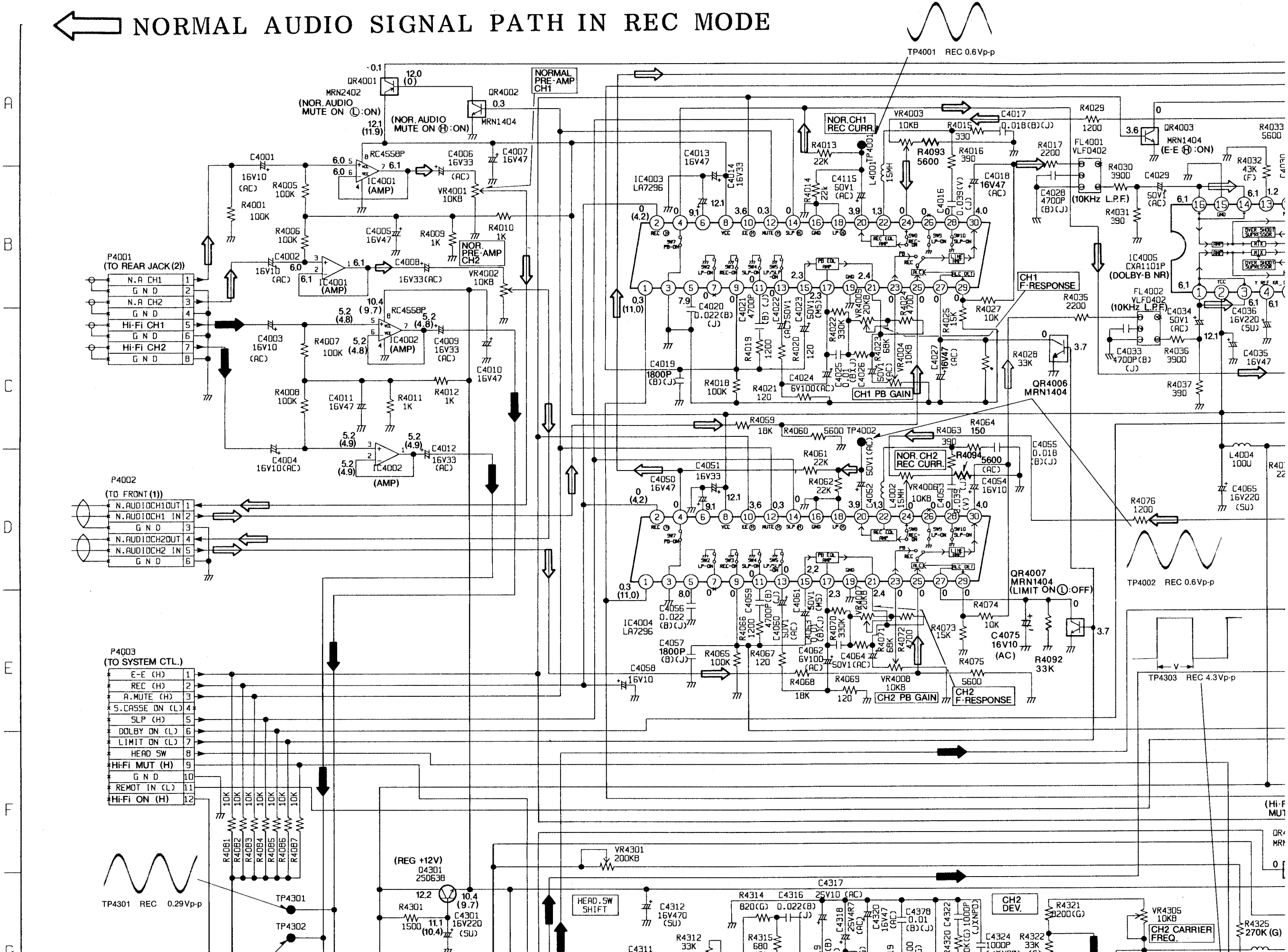
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
MEASUREMENT SIGNAL...PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

AUDIO SCHEMATIC DIAGRAM

Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE

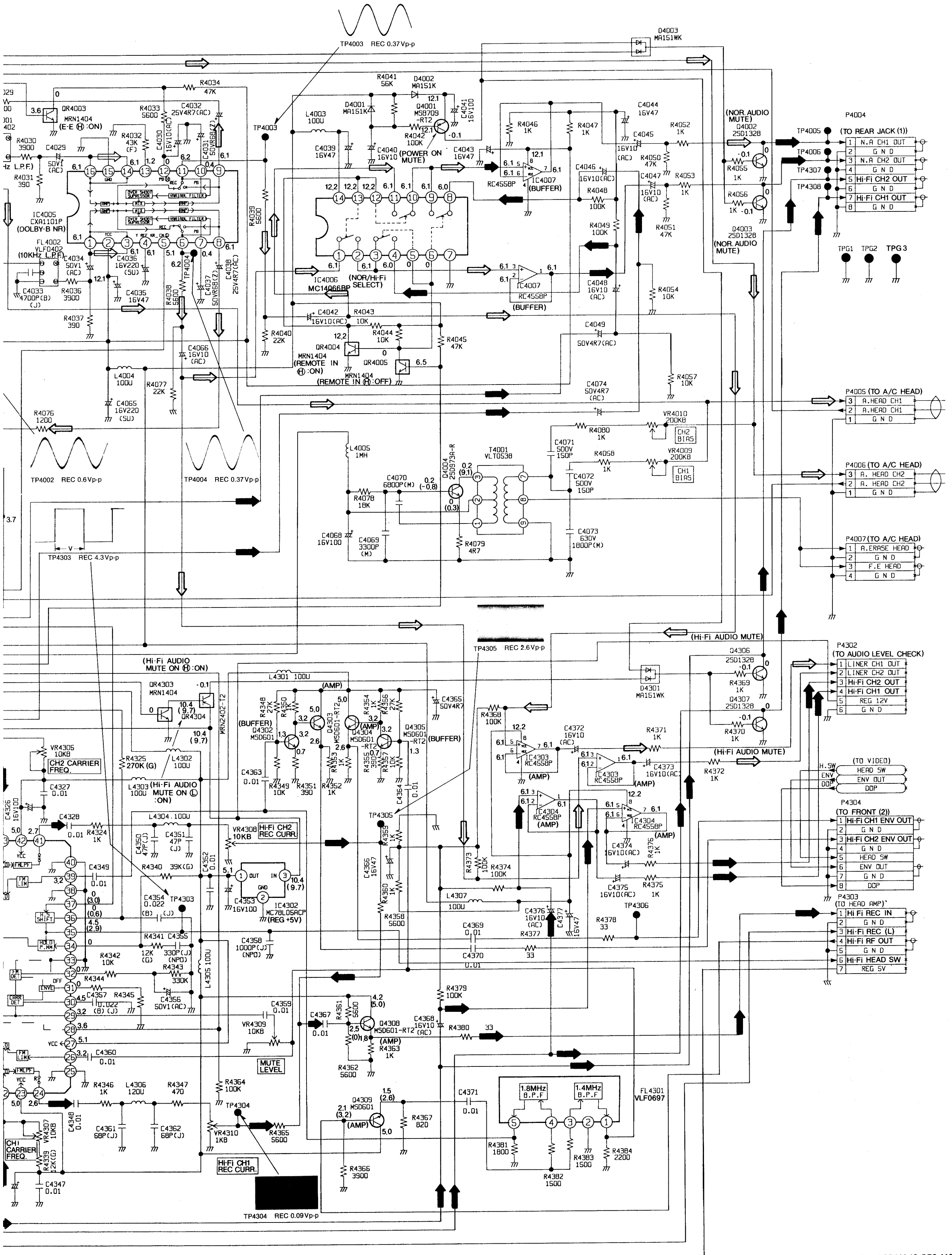
NORMAL AUDIO SIGNAL PATH IN REC MODE


TP4001 REC 0.6Vp-p
QR4001 MRN2402
(NOR. AUDIO MUTE ON Ⓛ:ON)
QR4002 MRN1404
(NOR. AUDIO MUTE ON Ⓗ:ON)
NORMAL PRE-AMP CH1
NOR. PRE-AMP CH2
IC4001 RC4558P (AMP)
IC4002 RC4558P (AMP)
P4001 (TO REAR JACK (2))
N.A CH1
GND
N.A CH2
Hi-Fi CH1
Hi-Fi CH2
P4002 (TO FRONT (1))
N.AUDIOCH1OUT
N.AUDIOCH1 IN
N.AUDIOCH2OUT
N.AUDIOCH2 IN
NOR.CH1 REC CURR.
NOR.CH2 REC CURR.
IC4003 LA7296
IC4004 LA7296
CH1 PB GAIN
CH2 PB GAIN
CH1 F-RESPONSE
CH2 F-RESPONSE
QR4003 MRN1404 (E-E Ⓗ:ON)
FL4001 VLF0402 (10KHz L.P.F)
FL4002 VLF0402 (10KHz L.P.F)
IC4005 CXA1101P (DOLBY-B NR)
QR4006 MRN1404
QR4007 MRN1404 (LIMIT ON Ⓛ:OFF)
TP4002 REC 0.6Vp-p
TP4303 REC 4.3Vp-p
P4003 (TO SYSTEM CTL.)
E-E (H)
REC (H)
A.MUTE (H)
S.CASSE ON (L)
SLP (H)
DOLBY ON (L)
LIMIT ON (L)
HEAD SW
Hi-Fi MUT (H)
REMOT IN (L)
Hi-Fi ON (H)
TP4301 REC 0.29Vp-p
TP4302 REC 0.29Vp-p
(REG +12V) Q4301 2SD638
(TO VIDEO)
REG 5V
REG 12V
D.REC (H)
MRN2404-T2 QR4301
(D.REC Ⓗ:OFF)
HEAD.SW SHIFT
VR4301 200KB
IC4301 BA7700K1
CH2 DEV.
CH2 CARRIER FREQ.
CH1 DEV.
CH1 CARRIER FREQ.
P4301 (TO FRONT (1))
REC VR CH1
REC VR CH1C
REC VR CH2
REC VR CH2C
Hi-Fi PRE-AMP CH1
Hi-Fi PRE-AMP CH2
VR4302 200B
VR4303 200B
VR4304 20KB
VR4305 10KB
VR4306 20KB
D4302 MA151WK
QR4302 MRN1404-T2 (Hi-Fi ON Ⓗ:ON)
NORMAL
HOLD:PULSE
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9

NOTE: DO NOT USE THE PART NUMBER SHOWN ON
IN THE PARTS LIST, AND MAY BE SLIGHTLY

AUDIO

VIDEO

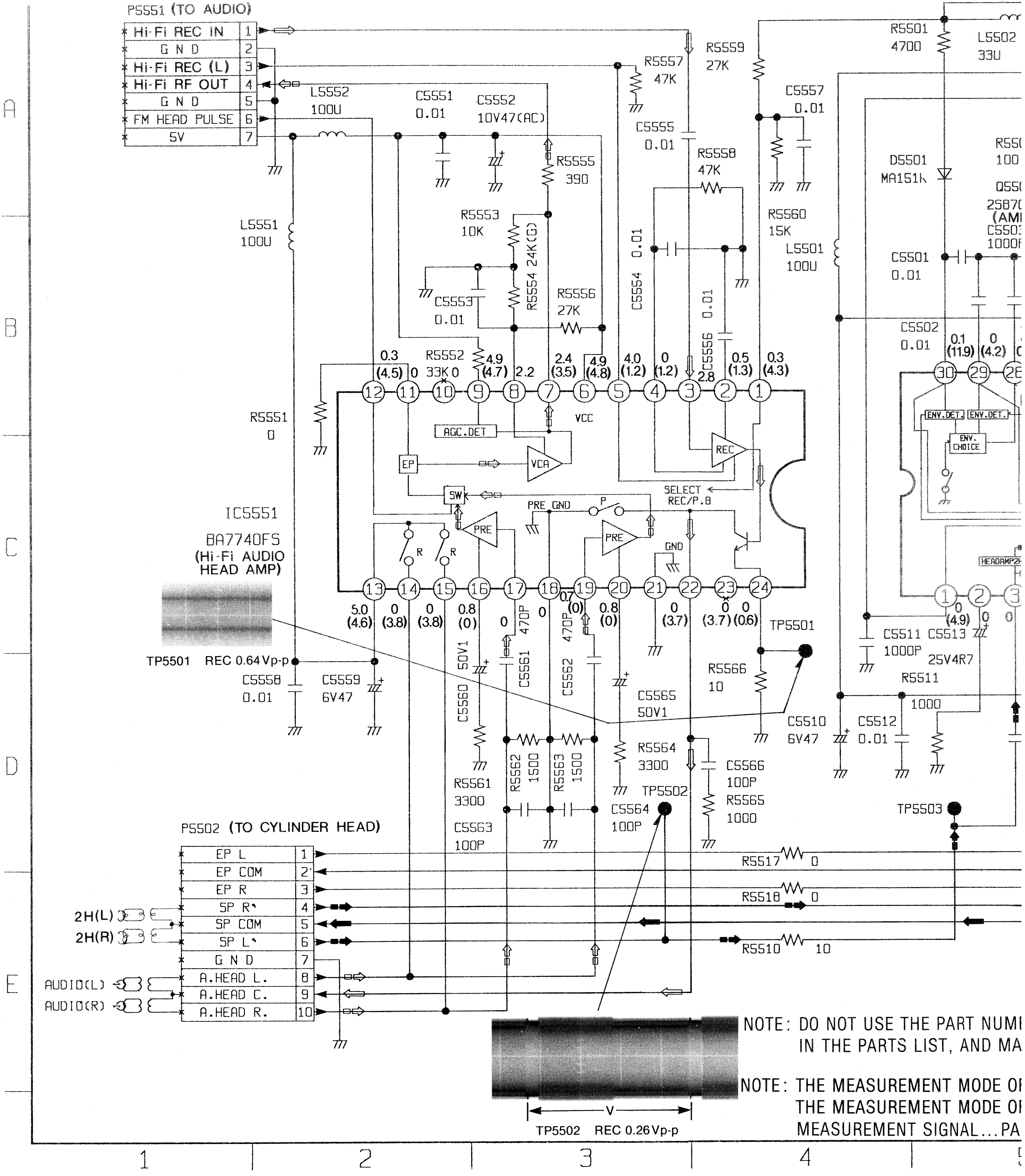

TP4003 REC 0.37Vp-p
D4003 MA151WK
R4034 47K
QR4003 MRN1404 (E-E Ⓗ:ON)
R4033 5600
C4032 25V4R7(AC)
R4032 43K (F)
C4029 50V1 (AC)
R4030 3900
R4031 390
IC4005 CXA1101P (DOLBY-B NR)
FL4002 VLF0402 (10KHz L.P.F)
C4034 50V1 (AC)
C4033 4700P(B) (J)
R4036 3900
R4037 390
C4036 16V220 (SU)
C4035 16V47
R4038 5600
C4037 50V88(Z)
C4038 25V4R7(AC)
R4039 5600
L4003 100U
C4039 16V47
R4041 56K
D4001 MA151K
D4002 MA151K
Q4001 MSB709-RT2
R4042 100K
C4040 16V10 (POWER ON MUTE)
C4041 16V100
C4043 16V47
IC4006 MC14066BP (NOR/Hi-Fi SELECT)
R4046 1K
R4047 1K
IC4007 RC4558P (BUFFER)
C4044 16V47
C4045 16V10 (AC)
C4046 16V10(AC)
R4048 100K
R4049 100K
C4048 16V10 (AC)
R4050 47K
C4047 16V10 (AC)
R4051 47K
R4052 1K
R4053 1K
R4054 10K
C4049 50V4R7(AC)
(NOR AUDIO MUTE) Q4002 2SD1328
R4055 1K
R4056 1K
Q4003 2SD1328 (NOR AUDIO MUTE)
P4004 (TO REAR JACK (1))
TP4005
TP4006
TP4307
TP4308
1 N.A CH1 OUT
2 G N D
3 N.A CH2 OUT
4 G N D
5 Hi-Fi CH2 OUT
6 G N D
7 Hi-Fi CH1 OUT
8 G N D
TPG1 TPG2 TPG3
C4042 16V10(AC)
R4043 10K
R4044 10K
R4045 47K
R4040 22K
QR4004 MRN1404 (REMOTE IN Ⓗ:ON)
QR4005 MRN1404 (REMOTE IN Ⓗ:OFF)
C4066 16V10 (AC)
L4004 100U
R4077 22K
C4065 16V220 (SU)
R4076 1200
C4074 50V4R7 (AC)
R4057 10K
P4005 (TO A/C HEAD)
3 A.HEAD CH1
2 A.HEAD CH1
1 G N D
VR4010 200KB
R4080 1K
CH2 BIAS
L4005 1MH
Q4004 2SC973A-R
T4001 VLT0538
C4071 500V 150P
R4058 1K
VR4009 200KB
CH1 BIAS
C4072 500V 150P
C4070 6800P(M)
R4078 18K
C4068 16V100
C4069 3300P (M)
R4079 4R7
C4073 630V 1800P(M)
P4006 (TO A/C HEAD)
3 A. HEAD CH2
2 A. HEAD CH2
1 G N D
P4007 (TO A/C HEAD)
1 A.ERASE HEAD
2 G N D
3 F.E HEAD
4 G N D
TP4002 REC 0.6Vp-p
TP4004 REC 0.37Vp-p
TP4303 REC 4.3Vp-p
TP4305 REC 2.6Vp-p
(Hi-Fi AUDIO MUTE)
Q4306 2SD1328
R4369 1K
Q4307 2SD1328
R4370 1K
D4301 MA151WK
P4302 (TO AUDIO LEVEL CHECK)
1 LINER CH1 OUT
2 LINER CH2 OUT
3 Hi-Fi CH2 OUT
4 Hi-Fi CH1 OUT
5 REG 12V
6 G N D
(Hi-Fi AUDIO MUTE ON Ⓗ:ON)
QR4303 MRN1404
QR4304 MRN2402-T2
L4301 100U
(AMP)
(BUFFER) Q4302 MSD601
Q4303 MSD601-RT2
Q4304 MSD601-RT2
Q4305 MSD601-RT2 (BUFFER)
C4365 50V4R7
R4368 100K
C4372 16V10 (AC)
R4371 1K
IC4303 RC4558P (AMP)
C4373 16V10(AC)
R4372 1K
(TO VIDEO)
H.SW HEAD SW
ENV ENV OUT
DOP DOP
P4304 (TO FRONT (2))
1 Hi-Fi CH1 ENV OUT
2 G N D
3 Hi-Fi CH2 ENV OUT
4 G N D
5 HEAD SW
6 ENV OUT
7 G N D
8 DOP
IC4304 RC4558P (AMP)
C4374 16V10(AC)
R4376 1K
C4375 16V10(AC)
R4375 1K
TP4306
P4303 (TO HEAD AMP)
1 Hi Fi REC IN
2 G N D
3 Hi-Fi REC (L)
4 Hi-Fi RF OUT
5 G N D
6 Hi-Fi HEAD SW
7 REG 5V
VR4305 10KB CH2 CARRIER FREQ.
R4325 270K (G)
L4302 100U
C4327 0.01
L4303 100U (Hi-Fi AUDIO MUTE ON Ⓛ:ON)
C4328
R4324 1K
L4304 100U
C4350 47P(J)
C4351 47P (J)
VR4308 10KB Hi-Fi CH2 REC CURR.
C4349 0.01
R4340 39K(G)
C4352 0.01
IC4302 MC78L05ACP (REG +5V)
C4353 16V100
C4354 0.022 (B) (J)
C4355
R4341 12K (G)
330P(J) (NPO)
R4342 10K
R4343 330K
R4344
C4357 0.022 (B) (J)
R4345
C4356 50V1(AC)
L4305 100U
C4358 1000P(J) (NPO)
C4359 0.01
VR4309 10KB
MUTE LEVEL
C4360 0.01
R4346 1K
L4306 120U
R4347 470
C4361 68P(J)
C4362 68P(J)
C4348 0.01
VR4307 10KB
R4339 12K(G)
CH1 CARRIER FREQ.
C4347 0.01
R4364 100K
VR4310 1KB
R4365 5600
Hi-Fi CH1 REC CURR.
TP4304 REC 0.09Vp-p
R4373 100K
R4374 100K
C4366 16V47
R4350 1K
R4358 5600
L4307 100U
C4369 0.01
C4370 0.01
C4376 16V10 (AC)
C4377 16V47
R4377 33
R4378 33
R4379 100K
C4367 0.01
R4361 5600
Q4308 MSD601-RT2 (AMP)
C4368 16V10 (AC)
R4380 33
R4363 1K
R4362 5600
Q4309 MSD601 (AMP)
R4367 820
R4366 3900
C4371 0.01
1.8MHz B.P.F
1.4MHz B.P.F
FL4301 VLF0697
R4381 1800
R4382 1500
R4383 1500
R4384 2200
9 10 11 12 13 14 15 16

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
MESUREMENT SIGNAL....1kHz -20db (0.28Vp-p) AUDIO SIGNAL.

T USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

HEAD AMP SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBAC



P5551 (TO AUDIO)
Hi-Fi REC IN 1
GND 2
Hi-Fi REC (L) 3
Hi-Fi RF OUT 4
GND 5
FM HEAD PULSE 6
5V 7
L5552 100U
C5551 0.01
C5552 10V47(AC)
R5555 390
R5557 47K
R5559 27K
C5555 0.01
R5558 47K
C5557 0.01
R5560 15K
L5501 100U
R5501 4700
L5502 33U
D5501 MA151K
C5501 0.01
C5502 0.01
L5551 100U
R5553 10K
R5554 24K(G)
C5553 0.01
R5556 27K
C5554 0.01
C5556 0.01
R5552 33K
R5551 0
AGC.DET
VCA
EP
SW
PRE
PRE GND
REC
SELECT REC/P.B
VCC
GND
IC5551
BA7740FS
(Hi-Fi AUDIO HEAD AMP)
ENV.DET.
ENV. CHOICE
HEADAMP2H
TP5501 REC 0.64Vp-p
C5558 0.01
C5559 6V47
C5560 50V1
C5561 470P
C5562 470P
C5565 50V1
R5566 10
TP5501
C5510 6V47
C5511 1000P
C5513 25V4R7
C5512 0.01
R5511 1000
R5561 3300
R5562 1500
R5563 1500
C5563 100P
R5564 3300
TP5502
C5564 100P
C5566 100P
R5565 1000
TP5503
P5502 (TO CYLINDER HEAD)
EP L 1
EP COM 2
EP R 3
SP R 4
SP COM 5
SP L 6
GND 7
A.HEAD L. 8
A.HEAD C. 9
A.HEAD R. 10
2H(L)
2H(R)
AUDIO(L)
AUDIO(R)
R5517 0
R5518 0
R5510 10
TP5502 REC 0.26Vp-p
V
A
B
C
D
E
1
2
3
4

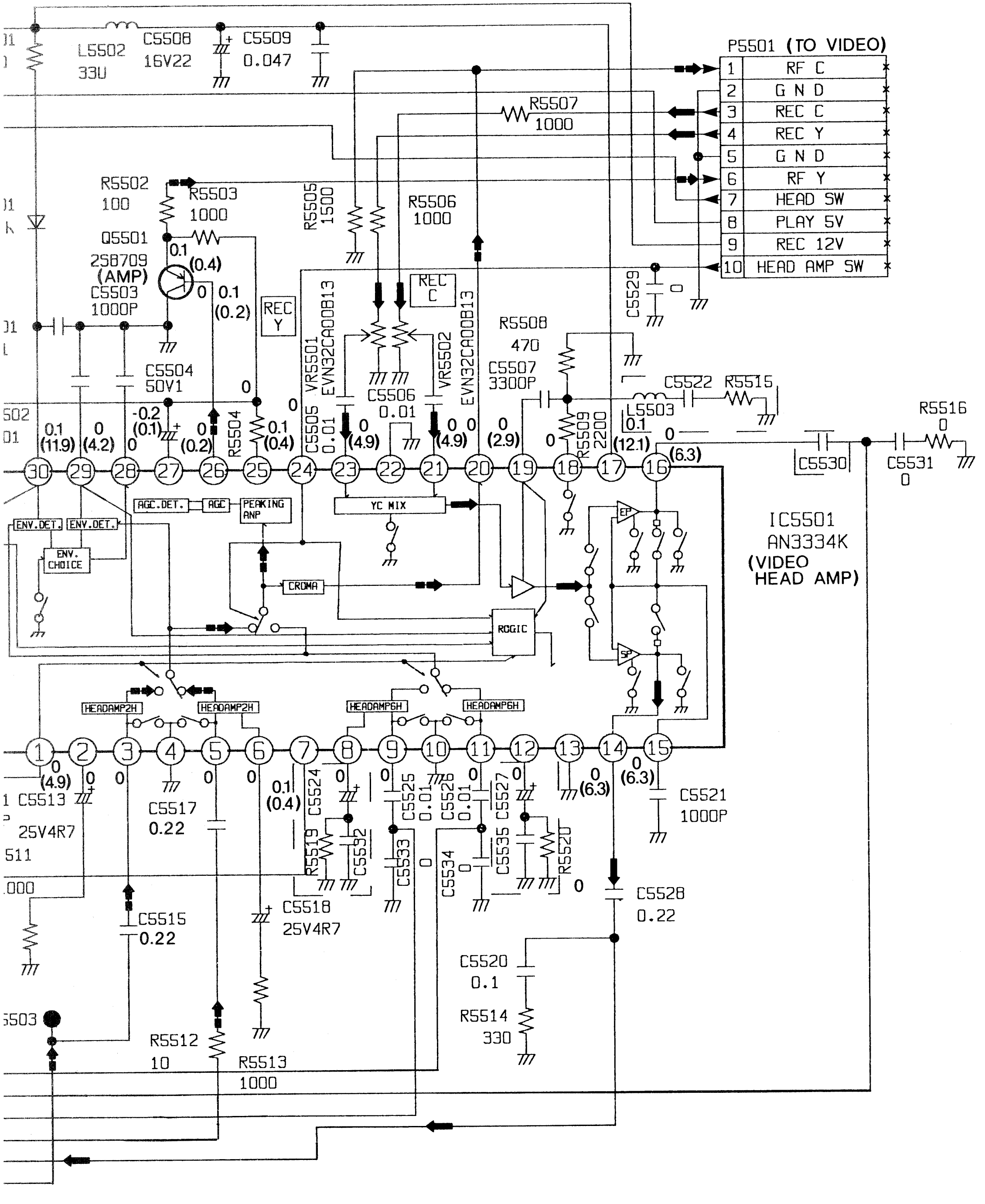
NOTE: DO NOT USE THE PART NUM
IN THE PARTS LIST, AND MA

NOTE: THE MEASUREMENT MODE O
THE MEASUREMENT MODE O
MEASUREMENT SIGNAL...PA

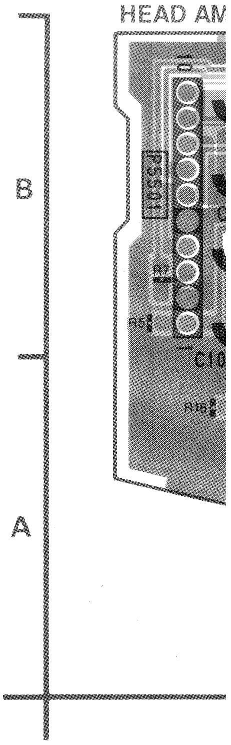
HEAD AMP

REC MODE
PLAYBACK MODE

⇦ AUDIO MAIN SIGNAL PATH IN REC MODE
⇦ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



L5502
33U
C5508
16V22
C5509
0.047
P5501 (TO VIDEO)
1 RF C
2 G N D
3 REC C
4 REC Y
5 G N D
6 RF Y
7 HEAD SW
8 PLAY 5V
9 REC 12V
10 HEAD AMP SW
R5507
1000
R5502
100
R5503
1000
R5505
1500
R5506
1000
Q5501
2SB709
(AMP)
C5503
1000P
C5504
50V1
REC Y
REC C
VR5501
EVN32CA00B13
VR5502
EVN32CA00B13
C5505
0.01
C5506
0.01
R5504
R5508
470
C5507
3300P
R5509
2200
C5529
C5522
R5515
L5503
R5516
C5530
C5531
IC5501
AN3334K
(VIDEO
HEAD AMP)
AGC.DET.
AGC
PEAKING AMP
YC MIX
ENV.DET.
ENV. CHOICE
CROMA
RO GIC
EP
SP
HEADAMP2H
HEADAMP6H
C5513
25V4R7
C5517
0.22
C5524
C5525
0.01
C5526
0.01
C5527
C5521
1000P
R5519
C5532
C5533
C5534
C5535
R5520
C5518
25V4R7
C5515
0.22
C5528
0.22
C5520
0.1
R5514
330
R5512
10
R5513
1000



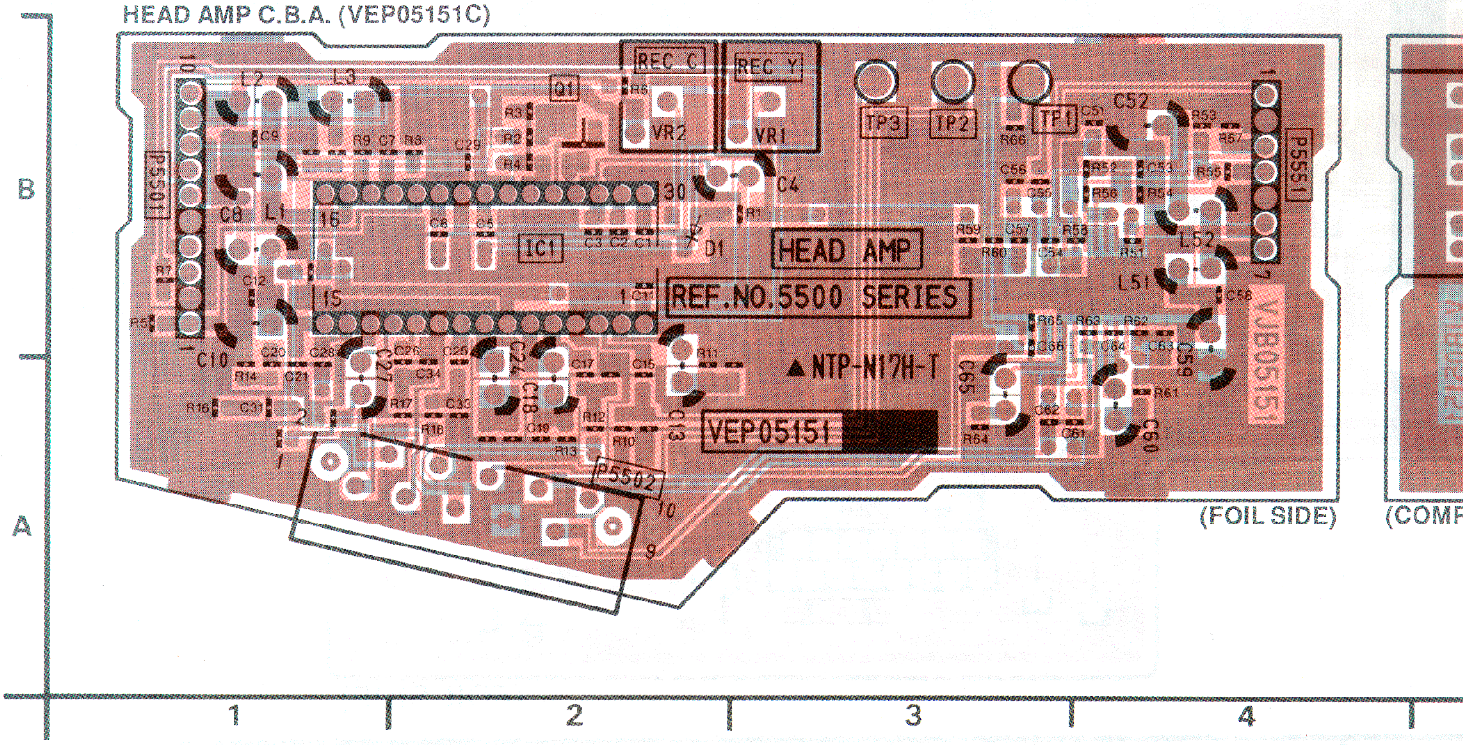
HEAD AM
B
A
P5501
R7
R5
C10
R16

ıE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

ıENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
ıENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE.
SIGNAL...PAL COLOUR SIGNAL.

5 | 6 | 7 | 8

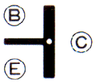
HEAD AMP C.B.A. (VEP05151C)



HEAD AMP C.B.A. (VEP05151C)

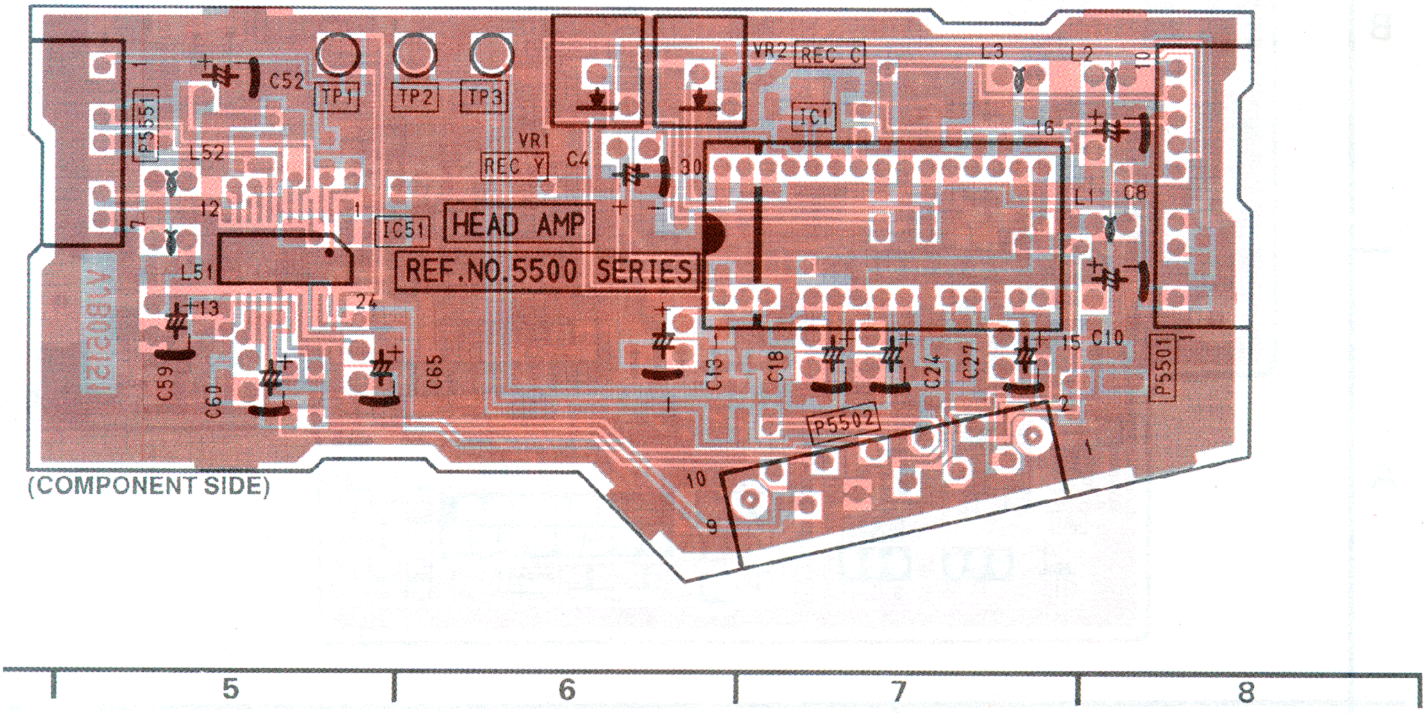
B
A
1
2
3
4
P5501
10
1
L2
L3
C9
R9 C7 R8
C29
C8
L1
16
15
R7
C12
R5
C10
C20
C28
C27
C26
C25
C24
C18
C17
C15
R11
R14
C21
R16
C31
2
C34
R17
C33
R18
C19
R12
R10
R13
C13
P5502
9
Q1
R6
R3
R2
R4
REC C
VR2
REC Y
VR1
30
C4
R1
C6
C5
IC1
C3 C2 C1
D1
C11
HEAD AMP
REF.NO.5500 SERIES
▲NTP-N17H-T
VEP05151
TP3
TP2
TP1
R66
C51
C52
R53
R57
C56
C55
R52
R56
C53
R54
R55
P5551
R59
C57
R58
R60
C54
R51
L52
L51
C58
R65
R63
R62
C66
C64
C63
C59
C65
R61
C62
C61
C60
R64
VJB05151
(FOIL SIDE)
(COMP

TRANSISTOR INFORMATION



HEAD AMP C.B.A.		
Transistor		
Q5501	B-2	Ⓕ
Integrated Circuits		
IC5501	B-7	Ⓒ
IC5501	B-2	Ⓕ
IC5551	B-5	Ⓒ
Test Points		
TP5501	B-5	Ⓒ
TP5501	B-3	Ⓕ
TP5502	B-6	Ⓒ
TP5502	B-3	Ⓕ
TP5503	B-6	Ⓒ
TP5503	B-3	Ⓕ
Adjustments		
VR5501	B-6	Ⓒ
VR5501	B-3	Ⓕ
VR5502	B-6	Ⓒ
VR5502	B-2	Ⓕ
Connectors		
P5501	A-8	Ⓒ
P5501	B-1	Ⓕ
P5502	A-7	Ⓒ
P5502	A-2	Ⓕ
P5551	B-5	Ⓒ
P5551	B-4	Ⓕ

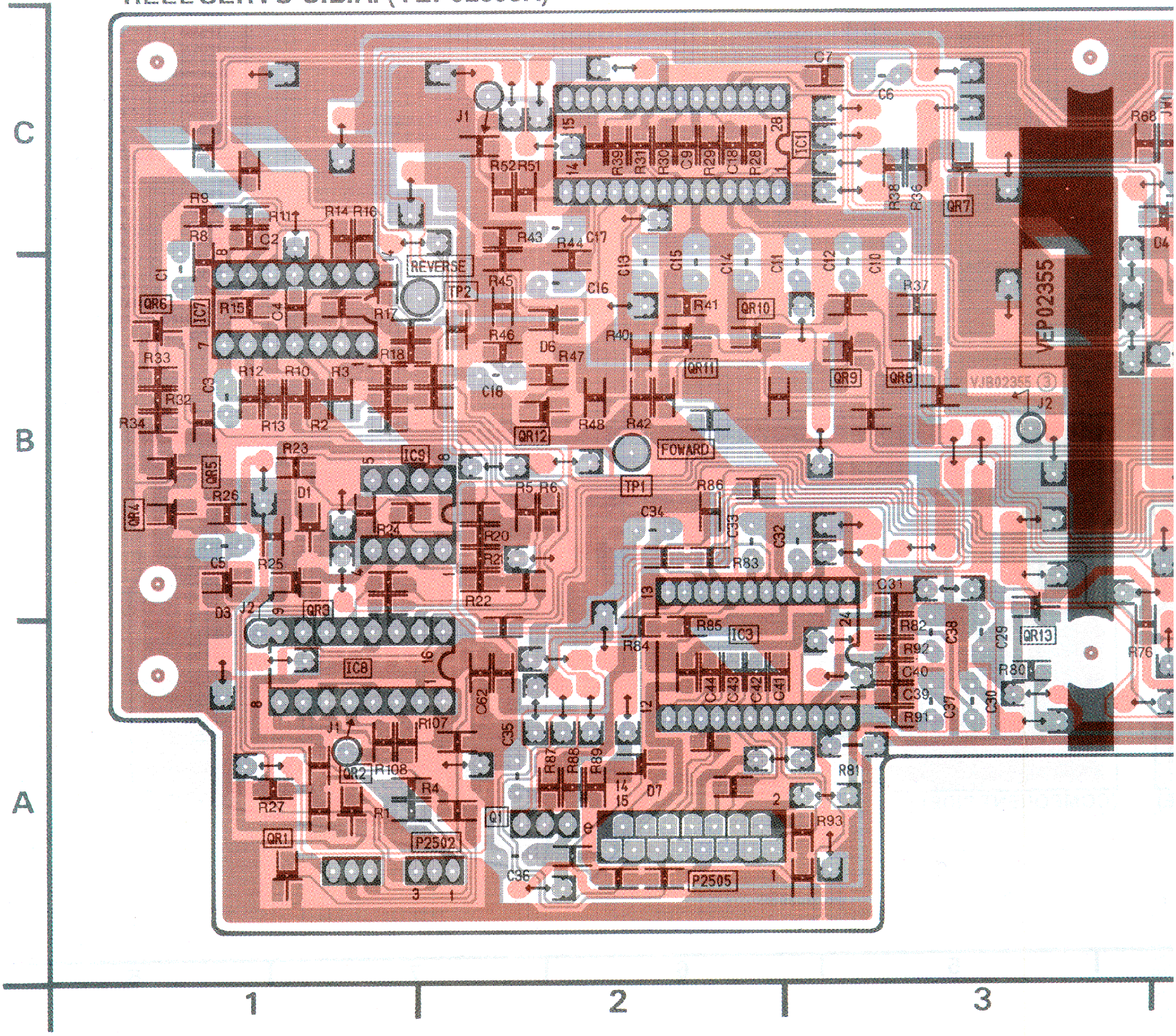
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE


C52
TP1
TP2
TP3
VR2
REC C
L3
L2
10
P5551
L52
VR1
REC Y
C4
30
IC1
16
L1
C8
12
IC51
HEAD AMP
REF.NO.5500 SERIES
L51
13
24
15
C10
C59
C60
C65
C13
C18
C24
C27
P5501
P5502
2
1
10
9
5
6
7
8

(COMPONENT SIDE)

REEL SERVO C.B.A. (VEP02355A)

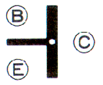
REEL SERVO C.B.A. (VEP02355A)

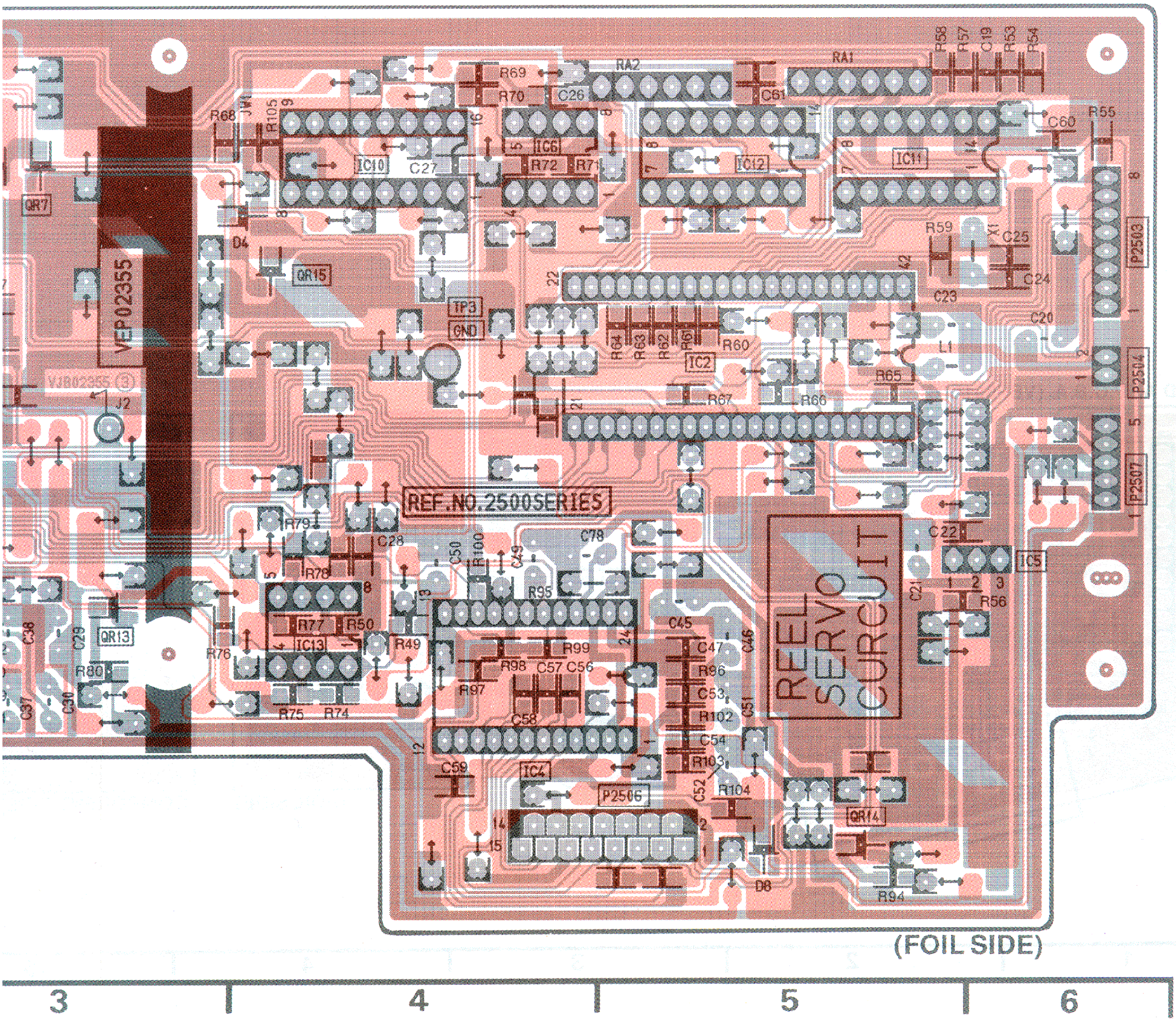

C
B
A
1
2
3
J1
R52
R51
C7
C6
R68
15
14
R39
R31
R30
C9
R29
C18
R28
28
IC1
R38
R36
QR7
R9
R8
R11
R14
R16
C2
R43
R44
C17
C13
C15
C14
C11
C12
C10
D4
C1
REVERSE
TP2
R45
C16
R37
VEP02355
QR6
IC7
R15
C4
R17
R46
R41
QR10
R40
D6
R47
R33
R18
QR11
QR9
QR8
VJB02355
J2
C3
R12
R10
R3
C18
R32
R34
R13
R2
QR12
R48
R42
R23
IC9
FOWARD
QR5
TP1
R5
R6
R86
R26
D1
C34
R24
C33
C32
QR4
R20
R21
C5
R25
R83
C31
R22
D3
J2
QR3
13
24
R85
IC3
R82
C38
C29
QR13
R84
R92
R76
16
IC8
R80
C40
C44
C43
C42
C41
C39
C62
C37
C30
8
R107
12
R91
J1
C35
QR2
R108
R87
R88
R89
R81
R4
14
15
D7
R27
R1
2
Q1
QR1
P2502
R93
3
1
C36
P2505
1

REEL SERVO

HEAD AMP

TRANSISTOR INFORMATION



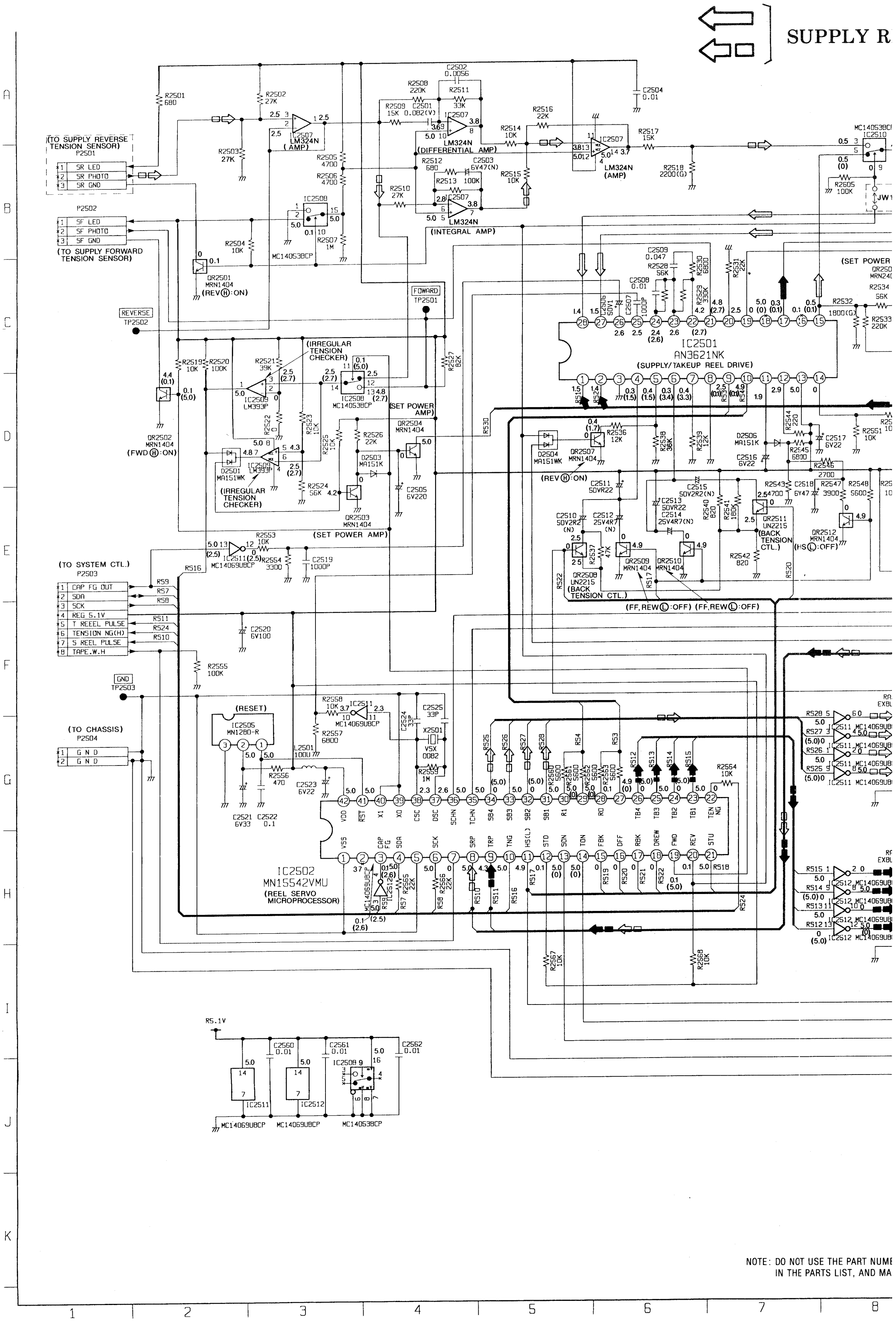

REEL SERVO CIRCUIT
REF.NO.2500SERIES
VEP02355
VJB02355 (3)
RA1
RA2
R69
R70
C26
C61
R58
R57
C19
R53
R54
R55
C60
R68
JW1
R105
IC10
C27
IC6
R72
R71
IC12
IC11
QR7
D4
QR15
TP3
GND
R59
X1
C25
C24
C23
C20
L1
P2503
P2504
P2507
R64
R63
R62
R61
R60
IC2
R65
R67
R66
J2
R79
C28
C50
R100
C49
C78
R78
R95
C22
IC5
C21
R56
C38
C29
QR13
R76
R80
C37
C30
R77
R50
IC13
R49
R99
R98
C57
C56
R97
C58
C45
C47
C46
R96
C53
C51
R102
C54
R103
C52
R104
R75
R74
C59
IC4
P2506
QR14
D8
R94
3
4
5
6

(FOIL SIDE)

REEL SERVO SCHEMATIC DIAGRAM

REEL SERVO C.B.A.	
Transistor	
Q2501	A-2
Transistors & Resistors	
QR2501	A-1
QR2502	A-1
QR2503	B-1
QR2504	B-1
QR2505	B-1
QR2506	B-1
QR2507	C-3
QR2508	B-3
QR2509	B-3
QR2510	B-2
QR2511	B-2
QR2512	B-2
QR2513	B-3
QR2514	A-5
QR2515	B-4
Integrated Circuits	
IC2501	C-2
IC2502	B-5
IC2503	A-2
IC2504	A-4
IC2505	B-6
IC2506	C-4
IC2507	B-1
IC2508	A-1
IC2509	B-2
IC2510	C-4
IC2511	C-5
IC2512	C-5
IC2513	A-4
Test Points	
TP2501	B-2
TP2502	B-2
TP2503 (GND)	B-4
Connectors	
P2502	A-2
P2503	C-6
P2504	B-6
P2505	A-2
P2506	A-4
P2507	B-6

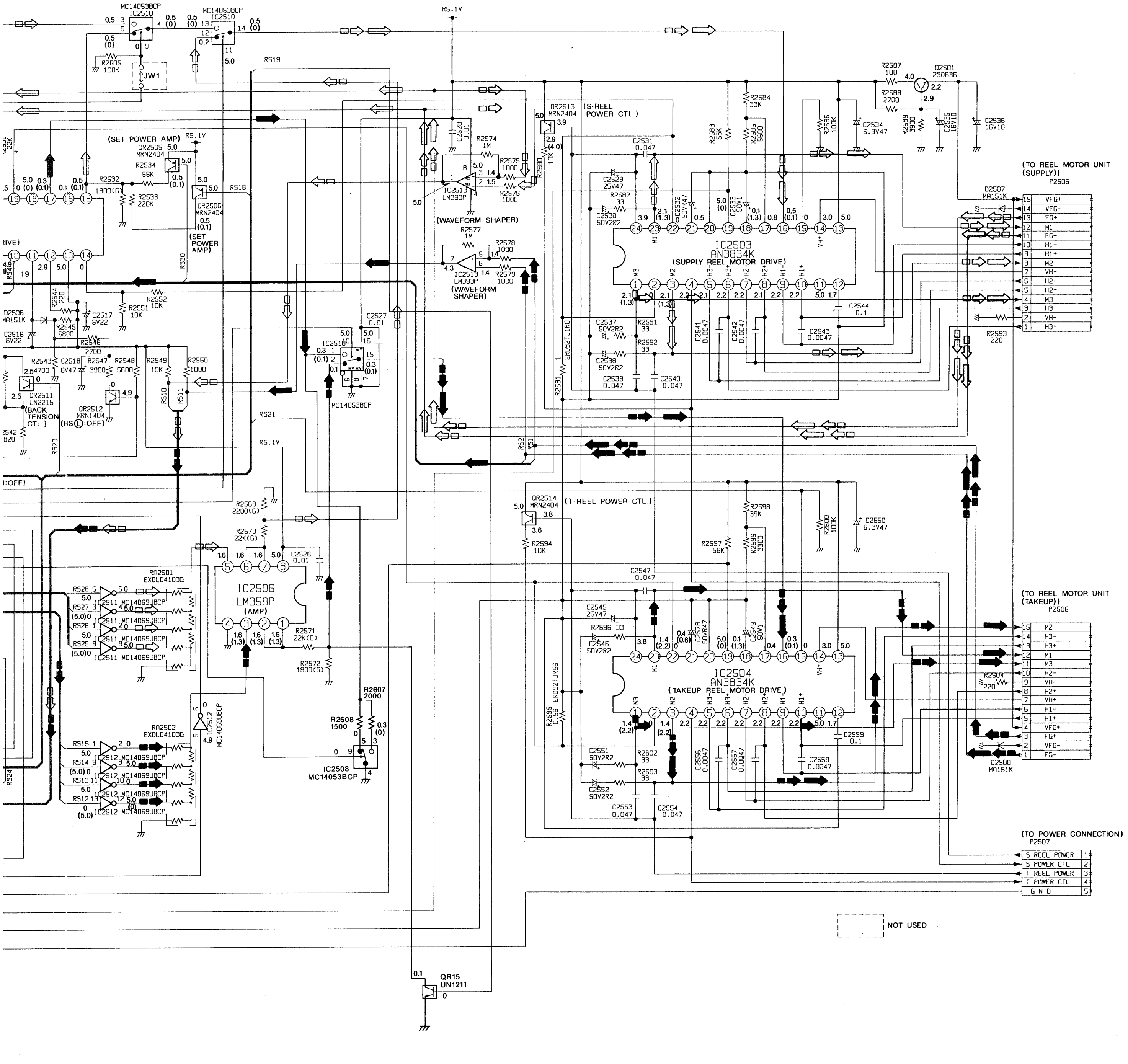
ADDRESS INFORMATION


SUPPLY R
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
(TO SUPPLY REVERSE TENSION SENSOR)
P2501
SR LED
SR PHOTO
SR GND
P2502
SF LED
SF PHOTO
SF GND
(TO SUPPLY FORWARD TENSION SENSOR)
R2501 680
R2502 27K
R2503 27K
R2504 10K
R2505 4700
R2506 4700
R2507 1M
IC2507 LM324N (AMP)
IC2508 MC14053BCP
QR2501 MRN1404 (REV(H):ON)
C2502 0.0056
R2508 220K
R2511
R2509 15K
C2501 0.082(V)
33K
IC2507 LM324N (DIFFERENTIAL AMP)
R2512 680
C2503 6V47(N)
R2513 100K
R2510 27K
LM324N (INTEGRAL AMP)
R2514 10K
R2515 10K
R2516 22K
IC2507 LM324N (AMP)
C2504 0.01
R2517 15K
R2518 2200(G)
MC14053BCP IC2510
R2505 100K
JW1
(SET POWER
FOWARD TP2501
REVERSE TP2502
IC2501 AN3621NK (SUPPLY/TAKEUP REEL DRIVE)
(IRREGULAR TENSION CHECKER)
R2519 10K
R2520 100K
R2521 39K
IC2509 LM393P
IC2508 MC14053BCP
(SET POWER AMP)
QR2504 MRN1404
QR2502 MRN1404 (FWD(H):ON)
D2501 MA151WK
(IRREGULAR TENSION CHECKER)
R2524 56K
R2526 22K
D2503 MA151K
QR2503 MRN1404
C2505 6V220
(SET POWER AMP)
R2527 82K
R530
D2504 MA151WK
QR2507 MRN1404
(REV(H):ON)
R2536 12K
R2538 36K
R2539 12K
C2511 50VR22
C2515 50V2R2(N)
C2513 50VR22
C2514 25V4R7(N)
C2510 50V2R2(N)
C2512 25V4R7(N)
R2540 820
R2541 180K
QR2508 UN2215 (BACK TENSION CTL.)
R2537 47K
QR2509 MRN1404
QR2510 MRN1404
R2517
QR2511 UN2215 (BACK TENSION CTL.)
R2542 820
QR2512 MRN1404 (HS(L):OFF)
(FF,REW(L):OFF) (FF,REW(L):OFF)
D2506 MA151K
C2516 6V22
C2517 6V22
R2551 10K
R2545 6800
R2546 2700
R2547 3900
R2548 5600
R2543 4700
C2518 6V47
R2532 1800(G)
R2534 56K
R2533 220K
(TO SYSTEM CTL.)
P2503
CAP FG OUT
SDA
SCK
REG 5.1V
T REEL PULSE
TENSION NG(H)
S REEL PULSE
TAPE.W.H
R59
R57
R58
R511
R524
R510
R516
IC2511 MC14069UBCP
R2553 10K
R2554 3300
C2519 1000P
C2520 6V100
R2555 100K
GND TP2503
(TO CHASSIS)
P2504
GND
GND
(RESET)
IC2505 MN1280-R
L2501 100U
R2556 470
C2523 6V22
C2521 6V33
C2522 0.1
R2558 10K
IC2511 MC14069UBCP
R2557 6800
C2524 33P
C2525 33P
X2501 V5X 0082
R2559 1M
IC2502 MN15542VMU (REEL SERVO MICROPROCESSOR)
VDD RST XI XO CSC OSC SCHN TCHN SB4 SB3 SB2 SB1 R1 RO TB4 TB3 TB2 TB1 TEN NG
VSS CAP FG SDA SCK SRP TRP TNG HS(L) STO SDN TON FBK OFF RBK DREW FWD REV STU
R525 R526 R527 R528 R54 R53
R512 R513 R514 R515
R2564 10K
R518
R2565 22K
R2566 22K
R510 R511 R516 R517 R519 R520 R521 R522 R524
R2567 10K
R2568 10K
R528 R527 R526 R525
IC2511 MC14069UBCP
R515 R514 R513 R512
IC2512 MC14069UBCP
R5.1V
C2560 0.01
C2561 0.01
C2562 0.01
IC2511
IC2512
IC2508
MC14069UBCP
MC14069UBCP
MC14053BCP

NOTE: DO NOT USE THE PART NUMB
IN THE PARTS LIST, AND MA

SUPPLY REEL DRIVE

TAKEUP REEL DRIVE



MC14053BCP IC2510
R2605 100K
JW1
R519
R5.1V
(SET POWER AMP)
QR2505 MRN2404
R2534 56K
R2532 1800(G)
R2533 220K
QR2506 MRN2404
(SET POWER AMP)
R518
R530
R2552 10K
R2551 10K
C2517 6V22
R2545 6800
R2546 2700
R2543 4700
C2518 6V47
R2547 3900
R2548 5600
R2549 10K
R2550 1000
QR2511 UN2215 (BACK TENSION CTL.)
QR2512 MRN1404 (HS(L):OFF)
R510
R511
R521
R520
D2506 MA151K
C2516 6V22
C2528 0.01
R2574 1M
R2575 1000
R2576 1000
IC2513 LM393P
(WAVEFORM SHAPER)
R2577 1M
R2578 1000
R2579 1000
C2527 0.01
IC2510
MC14053BCP
R52
R51
QR2513 MRN2404
(S-REEL POWER CTL.)
R2580 10K
R2581 ERD52TJ1R0
C2531 0.047
C2529 25V47
R2582 33
C2530 50V2R2
C2532 50VR47
C2533 50V1
R2583 56K
R2584 33K
R2585 5600
R2586 100K
C2534 6.3V47
R2589 3900
C2535 16V10
C2536 16V10
R2587 100
R2588 2700
D2501 2SD636
IC2503
AN3834K
(SUPPLY REEL MOTOR DRIVE)
C2537 50V2R2
R2591 33
C2538 50V2R2
R2592 33
C2539 0.047
C2540 0.047
C2541 0.0047
C2542 0.0047
C2543 0.0047
C2544 0.1
R2593 220
(TO REEL MOTOR UNIT (SUPPLY))
P2505
D2507 MA151K
15 VFG+
14 VFG-
13 FG+
12 M1
11 FG-
10 H1-
9 H1+
8 M2
7 VH+
6 H2-
5 H2+
4 M3
3 H3-
2 VH-
1 H3+
R2569 2200(G)
R2570 22K(G)
C2526 0.01
IC2506
LM358P
(AMP)
R2571 22K(G)
R2572 1800(G)
RA2501 EXBL04103G
R528
R527
R526
R525
IC2511 MC14069UBCP
R2607 2000
R2608 1500
IC2508
MC14053BCP
RA2502 EXBL04103G
R515
R514
R513
R512
IC2512 MC14069UBCP
R524
QR2514 MRN2404
(T-REEL POWER CTL.)
R2594 10K
R2595 ERD52TJR56
C2545 25V47
R2596 33
C2546 50V2R2
C2547 0.047
C2548 50VR47
C2549 50V1
R2597 56K
R2598 39K
R2599 3300
R2600 100K
C2550 6.3V47
IC2504
AN3834K
(TAKEUP REEL MOTOR DRIVE)
C2551 50V2R2
R2602 33
C2552 50V2R2
R2603 33
C2553 0.047
C2554 0.047
C2556 0.0047
C2557 0.0047
C2558 0.0047
C2559 0.1
R2604 220
(TO REEL MOTOR UNIT (TAKEUP))
P2506
15 M2
14 H3-
13 H3+
12 M1
11 M3
10 H2-
9 VH-
8 H2+
7 VH+
6 H1-
5 H1+
4 VFG+
3 FG+
2 VFG-
1 FG-
D2508 MA151K
(TO POWER CONNECTION)
P2507
S REEL POWER 1
S POWER CTL 2
T REEL POWER 3
T POWER CTL 4
GND 5
NOT USED
QR15 UN1211

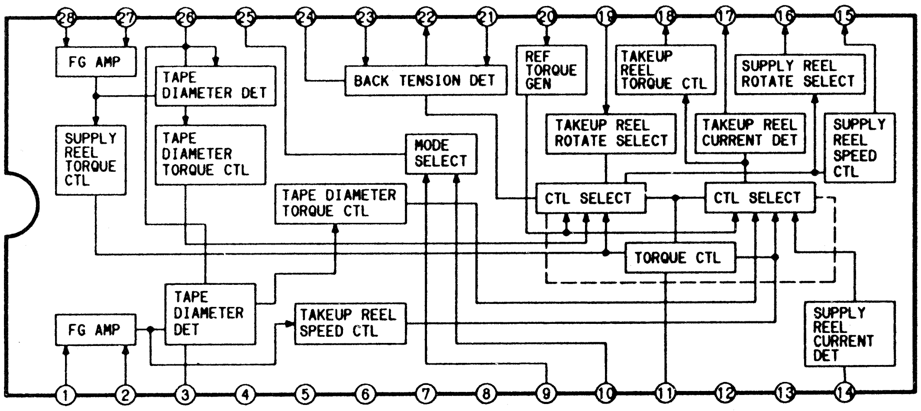
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE. MEASUREMENT SIGNAL...PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16

IC INFORMATION

IC 2501　AN3621NK


FG AMP
TAPE DIAMETER DET
BACK TENSION DET
REF TORQUE GEN
TAKEUP REEL TORQUE CTL
SUPPLY REEL ROTATE SELECT
SUPPLY REEL TORQUE CTL
TAPE DIAMETER TORQUE CTL
MODE SELECT
TAKEUP REEL ROTATE SELECT
TAKEUP REEL CURRENT DET
SUPPLY REEL SPEED CTL
TAPE DIAMETER TORQUE CTL
CTL SELECT
CTL SELECT
TORQUE CTL
TAPE DIAMETER DET
FG AMP
TAKEUP REEL SPEED CTL
SUPPLY REEL CURRENT DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
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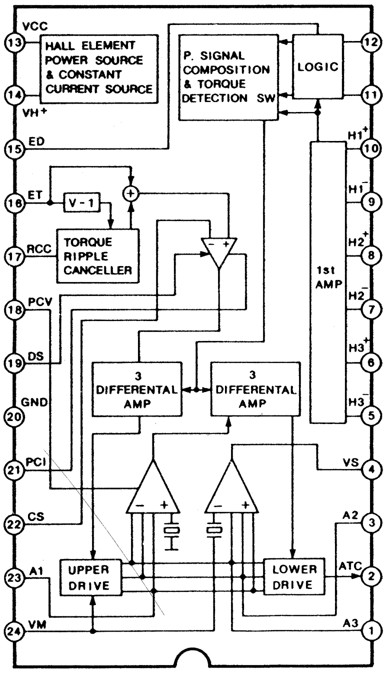
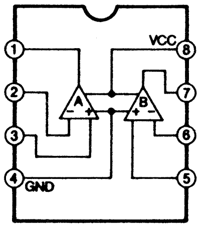
26
27
28

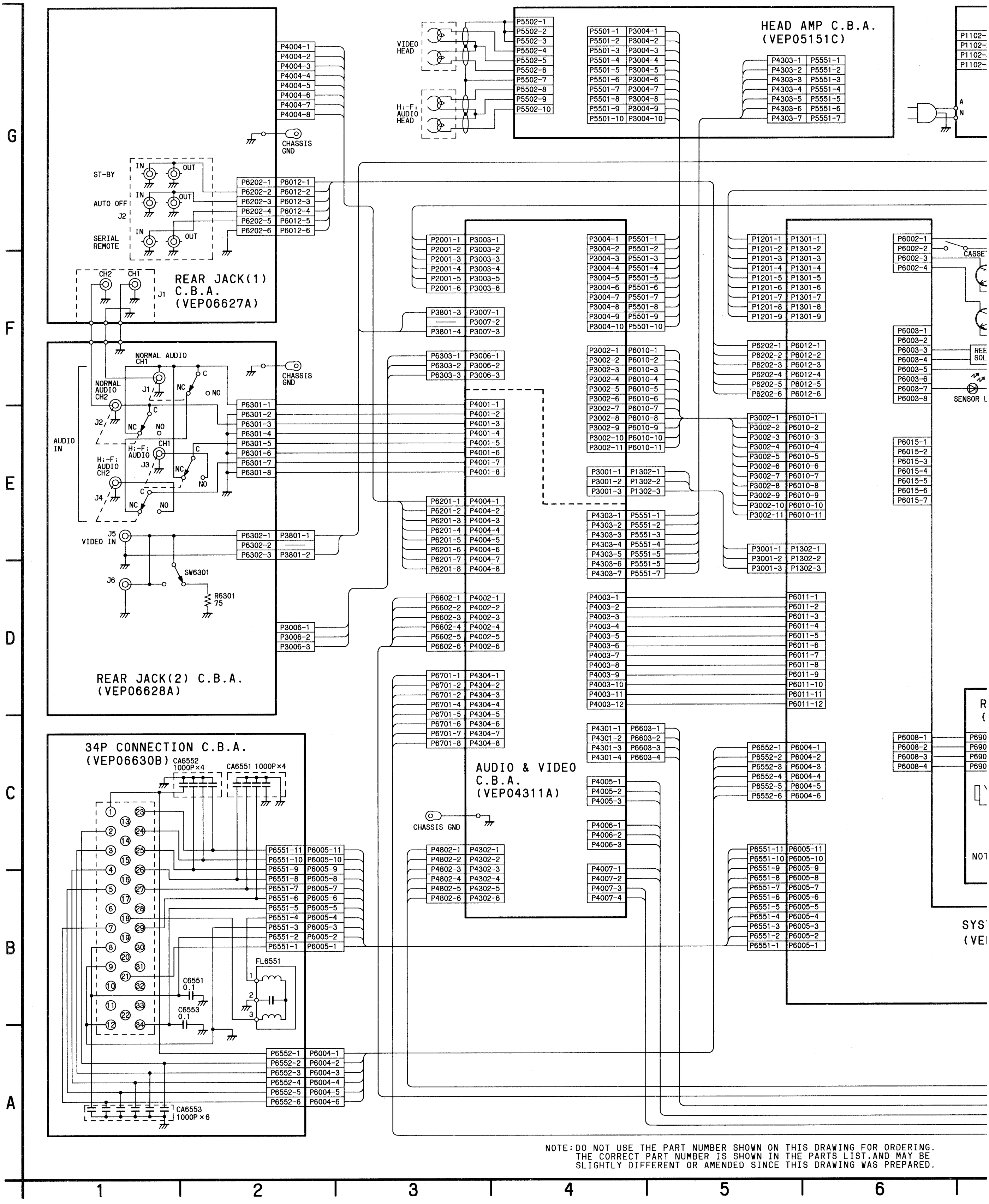
IC2503, 2504　AN3834K


VCC
13
HALL ELEMENT POWER SOURCE & CONSTANT CURRENT SOURCE
14
VH+
15
ED
16
ET
V-1
17
RCC
TORQUE RIPPLE CANCELLER
18
PCV
19
DS
20
GND
21
PCI
22
CS
23
A1
UPPER DRIVE
24
VM
P. SIGNAL COMPOSITION & TORQUE DETECTION SW
LOGIC
3 DIFFERENTAL AMP
3 DIFFERENTAL AMP
1st AMP
LOWER DRIVE
12
11
H1+
10
H1−
9
H2+
8
H2−
7
H3+
6
H3−
5
VS
4
A2
3
ATC
2
A3
1

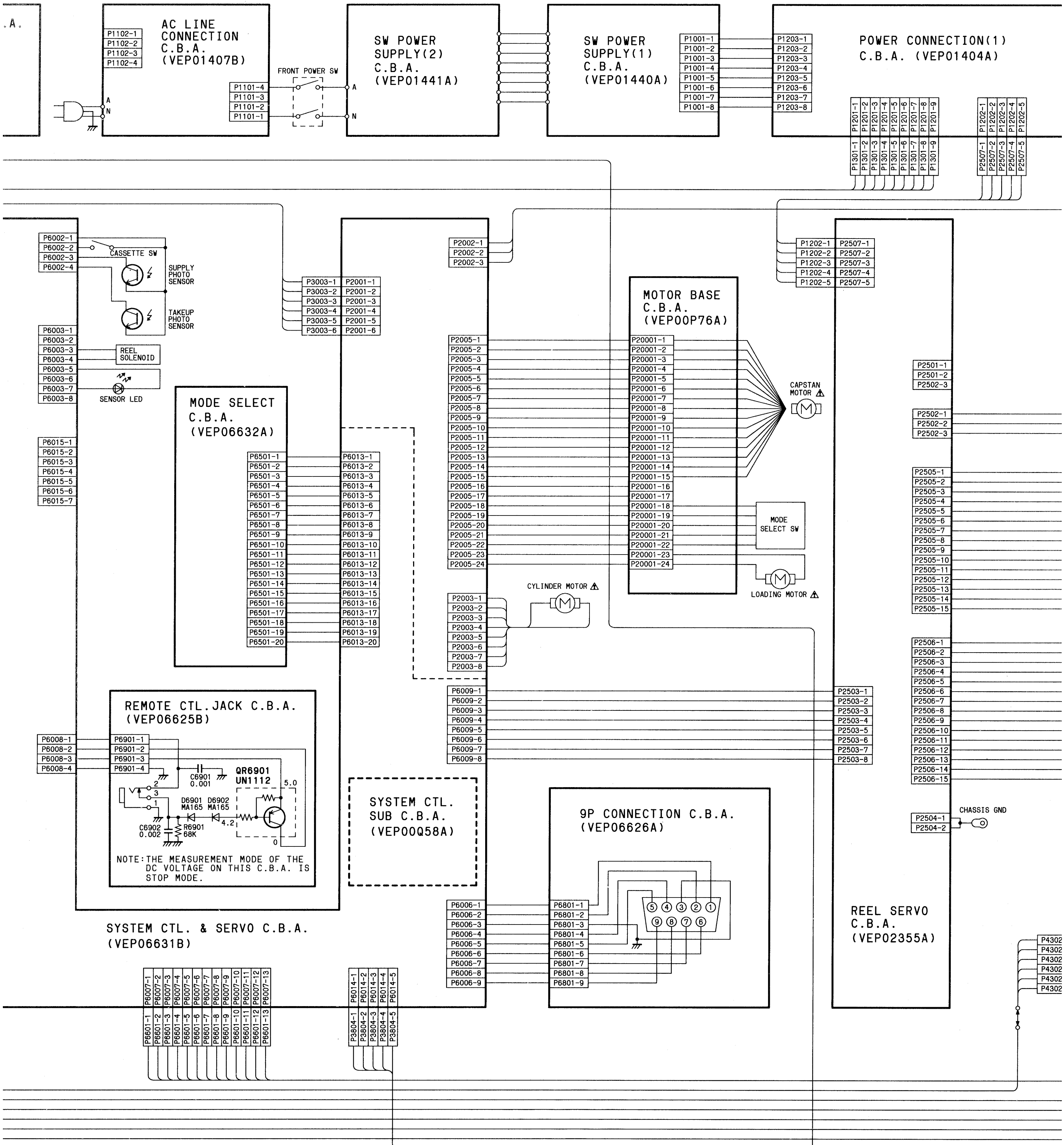
IC2506　LM358P


1
2
3
4
GND
VCC
8
7
6
5
A
B

INTERCONNECTION SCHEMATIC DIAGRAM

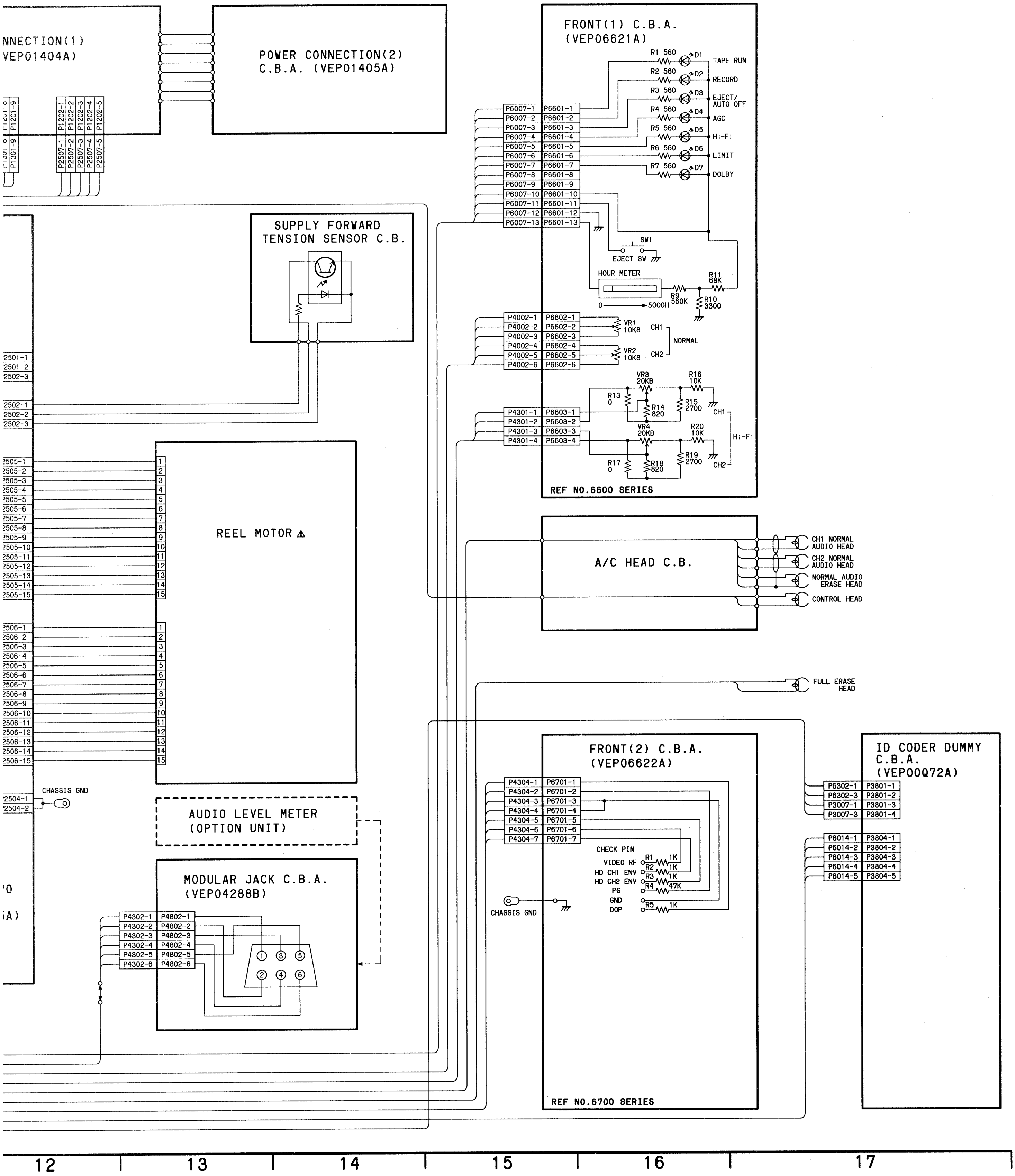

HEAD AMP C.B.A.
(VEP05151C)
VIDEO HEAD
Hi-Fi AUDIO HEAD
REAR JACK(1) C.B.A.
(VEP06627A)
ST-BY
AUTO OFF
J2
SERIAL REMOTE
IN
OUT
CH2
CH1
J1
CHASSIS GND
REAR JACK(2) C.B.A.
(VEP06628A)
NORMAL AUDIO CH1
NORMAL AUDIO CH2
AUDIO IN
Hi-Fi AUDIO CH1
Hi-Fi AUDIO CH2
J3
J4
J5
VIDEO IN
J6
SW6301
R6301
75
NC
NO
C
34P CONNECTION C.B.A.
(VEP06630B)
CA6552 1000P×4
CA6551 1000P×4
CA6553 1000P×6
FL6551
C6551 0.1
C6553 0.1
AUDIO & VIDEO C.B.A.
(VEP04311A)
CHASSIS GND
CASSE
REE SOL
SENSOR L
SYS
(VE
G
F
E
D
C
B
A
1
2
3
4
5
6

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


.A.
AC LINE CONNECTION C.B.A. (VEP01407B)
P1102-1
P1102-2
P1102-3
P1102-4
P1101-4
P1101-3
P1101-2
P1101-1
A
N
FRONT POWER SW
SW POWER SUPPLY(2) C.B.A. (VEP01441A)
SW POWER SUPPLY(1) C.B.A. (VEP01440A)
P1001-1 – P1001-8
P1203-1 – P1203-8
POWER CONNECTION(1) C.B.A. (VEP01404A)
P1201-1 – P1201-9
P1301-1 – P1301-9
P1202-1 – P1202-5
P2507-1 – P2507-5
P6002-1 – P6002-4
CASSETTE SW
SUPPLY PHOTO SENSOR
TAKEUP PHOTO SENSOR
P6003-1 – P6003-8
REEL SOLENOID
SENSOR LED
P6015-1 – P6015-7
P3003-1 – P3003-6
P2001-1 – P2001-6
P2002-1 – P2002-3
MODE SELECT C.B.A. (VEP06632A)
P6501-1 – P6501-20
P6013-1 – P6013-20
P2005-1 – P2005-24
MOTOR BASE C.B.A. (VEP00P76A)
P20001-1 – P20001-24
CAPSTAN MOTOR ⚠
MODE SELECT SW
LOADING MOTOR ⚠
CYLINDER MOTOR ⚠
P2003-1 – P2003-8
P1202-1 – P1202-5
P2507-1 – P2507-5
P2501-1
P2501-2
P2502-3
P2502-1 – P2502-3
P2505-1 – P2505-15
P2506-1 – P2506-15
REMOTE CTL.JACK C.B.A. (VEP06625B)
P6008-1 – P6008-4
P6901-1 – P6901-4
C6901 0.001
QR6901 UN1112
5.0
D6901 MA165
D6902 MA165
4.2
C6902 0.002
R6901 68K
0
NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS C.B.A. IS STOP MODE.
P6009-1 – P6009-8
P2503-1 – P2503-8
SYSTEM CTL. SUB C.B.A. (VEP00Q58A)
9P CONNECTION C.B.A. (VEP06626A)
P6801-1 – P6801-9
P6006-1 – P6006-9
P2504-1
P2504-2
CHASSIS GND
REEL SERVO C.B.A. (VEP02355A)
P4302
SYSTEM CTL. & SERVO C.B.A. (VEP06631B)
P6007-1 – P6007-13
P6601-1 – P6601-13
P6014-1 – P6014-5
P3804-1 – P3804-5
6 7 8 9 10 11 12

FOR ORDERING.
T.AND MAY BE
WAS PREPARED.

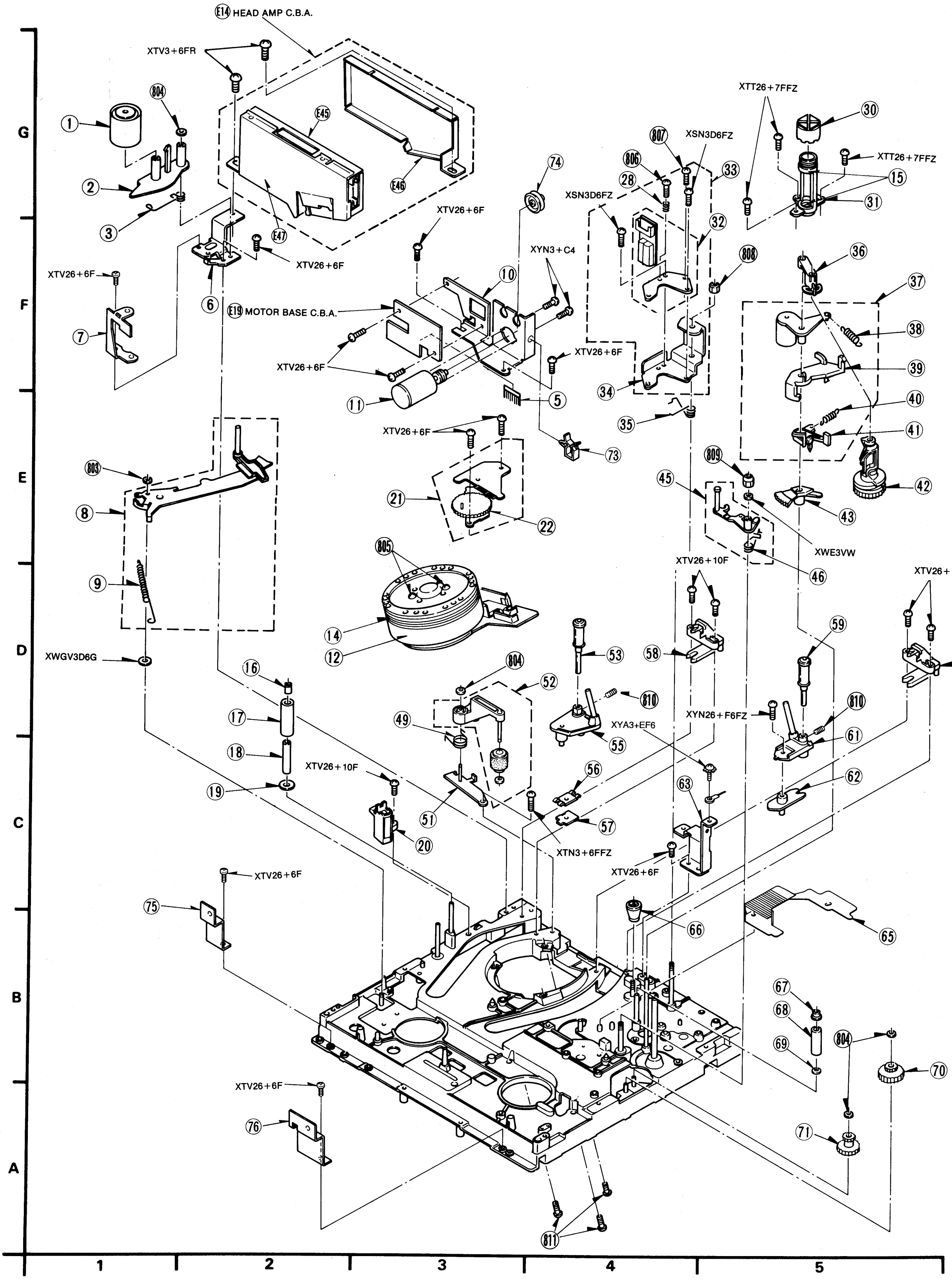
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

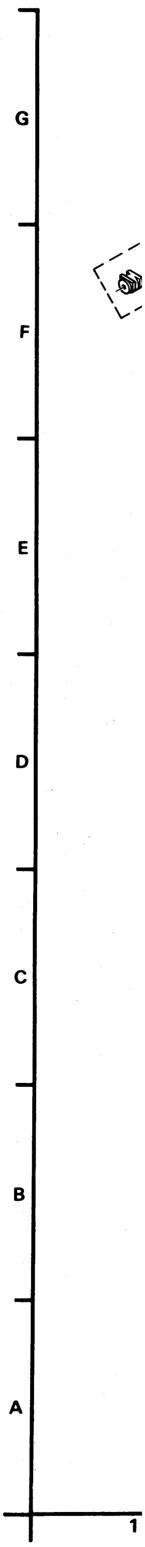

NNECTION(1)
VEP01404A)
POWER CONNECTION(2)
C.B.A. (VEP01405A)
P1201-9
P1301-9
P1202-1 P1202-2 P1202-3 P1202-4 P1202-5
P2507-1 P2507-2 P2507-3 P2507-4 P2507-5
FRONT(1) C.B.A.
(VEP06621A)
R1 560 D1 TAPE RUN
R2 560 D2 RECORD
R3 560 D3 EJECT/ AUTO OFF
R4 560 D4 AGC
R5 560 D5 Hi-Fi
R6 560 D6 LIMIT
R7 560 D7 DOLBY
P6007-1 … P6007-13
P6601-1 … P6601-13
SW1
EJECT SW
HOUR METER
0 5000H
R9 560K
R10 3300
R11 68K
P4002-1 … P4002-6
P6602-1 … P6602-6
VR1 10K8 CH1
VR2 10K8 CH2
NORMAL
VR3 20KB
R13 0
R14 820
R15 2700
R16 10K
CH1
P4301-1 … P4301-4
P6603-1 … P6603-4
VR4 20KB
R17 0
R18 820
R19 2700
R20 10K
CH2
Hi-Fi
REF NO.6600 SERIES
SUPPLY FORWARD
TENSION SENSOR C.B.
P2501-1 P2501-2 P2502-3
P2502-1 P2502-2 P2502-3
REEL MOTOR ⚠
P2505-1 … P2505-15
P2506-1 … P2506-15
1–15
A/C HEAD C.B.
CH1 NORMAL AUDIO HEAD
CH2 NORMAL AUDIO HEAD
NORMAL AUDIO ERASE HEAD
CONTROL HEAD
FULL ERASE HEAD
P2504-1 P2504-2
CHASSIS GND
AUDIO LEVEL METER
(OPTION UNIT)
MODULAR JACK C.B.A.
(VEP04288B)
P4302-1 … P4302-6
P4802-1 … P4802-6
① ③ ⑤
② ④ ⑥
FRONT(2) C.B.A.
(VEP06622A)
P4304-1 … P4304-7
P6701-1 … P6701-7
CHECK PIN
VIDEO RF R1 1K
HD CH1 ENV R2 1K
HD CH2 ENV R3 1K
PG R4 47K
GND
DOP R5 1K
CHASSIS GND
REF NO.6700 SERIES
ID CODER DUMMY
C.B.A.
(VEP00Q72A)
P6302-1 P6302-3 P3007-1 P3007-3
P3801-1 P3801-2 P3801-3 P3801-4
P6014-1 … P6014-5
P3804-1 … P3804-5
12 13 14 15 16 17

EXPLODED VIEWS

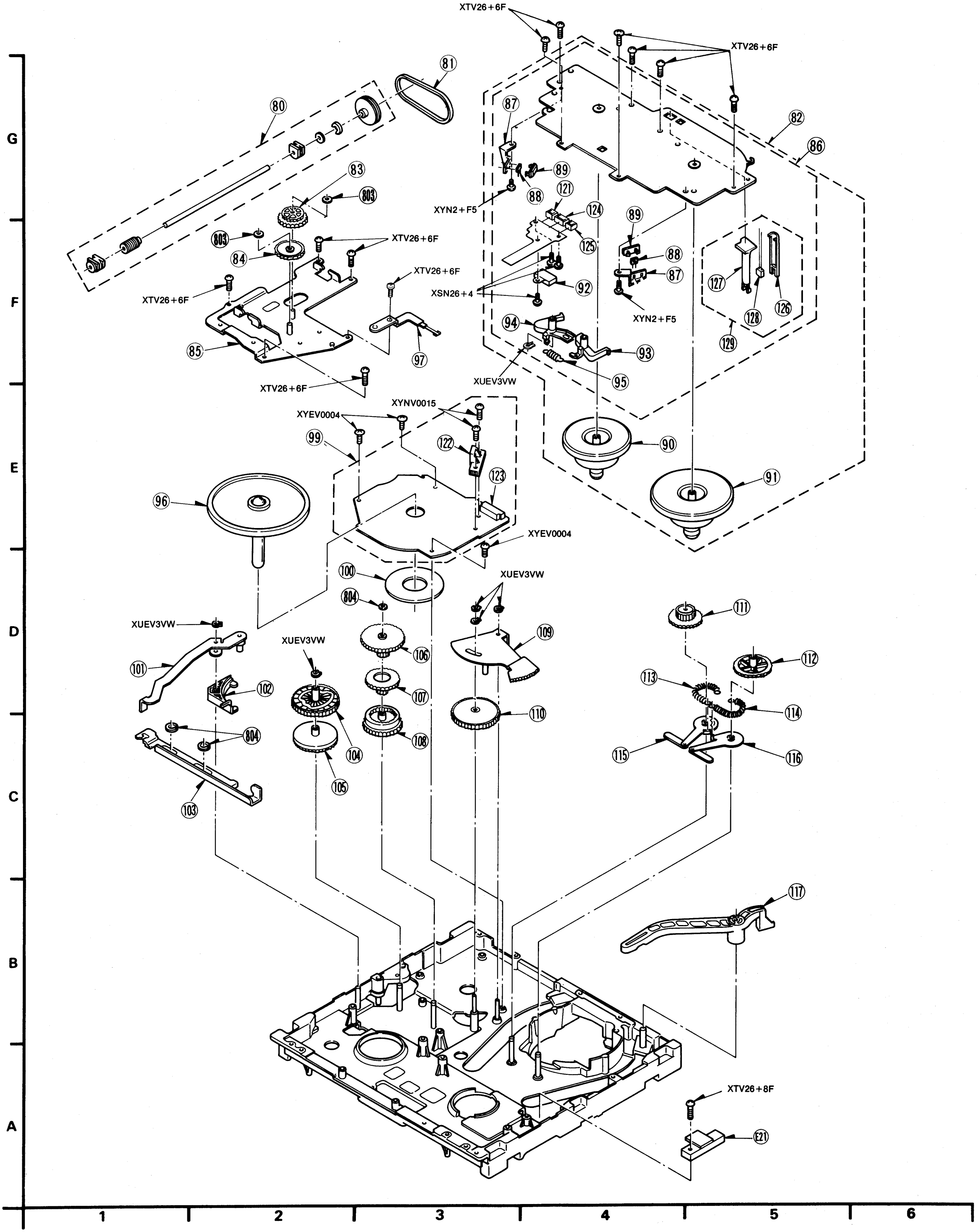
❶ Chassis Parts Section

❷ Movi

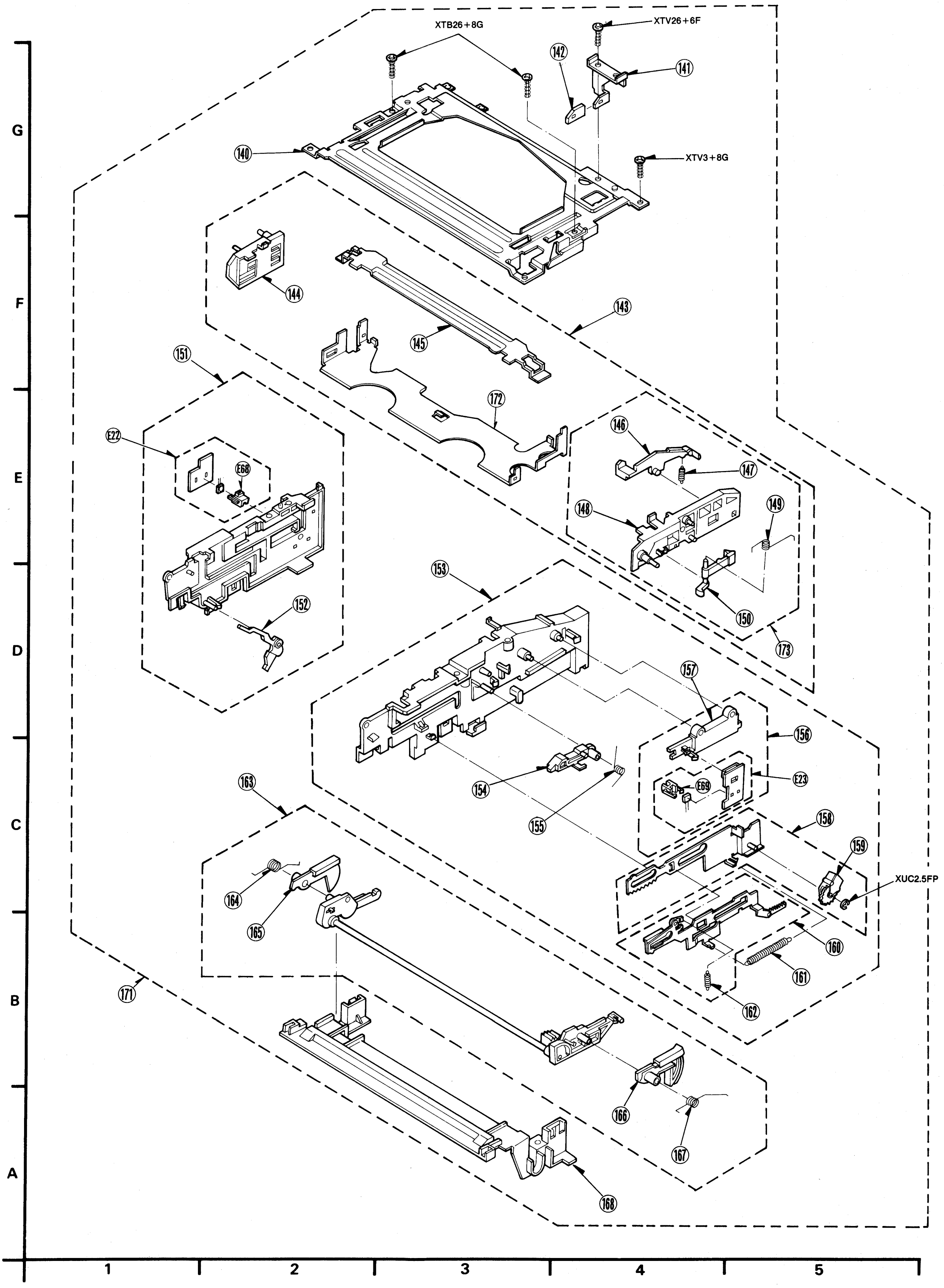

E14 HEAD AMP C.B.A.
XTV3+6FR
804
①
②
③
E45
E46
E47
⑥
⑦
XTV26+6F
XTV26+6F
XTV26+6F
74
⑩
E19 MOTOR BASE C.B.A.
XYN3+C4
XTV26+6F
XTV26+6F
⑪
⑤
XTV26+6F
73
21
22
807
XSN3D6FZ
806
28
33
XSN3D6FZ
32
808
34
35
XTT26+7FFZ
30
XTT26+7FFZ
⑮
31
36
37
38
39
40
41
42
43
809
45
XWE3VW
46
803
⑧
⑨
XWGV3D6G
805
⑭
⑫
⑯
⑰
⑱
⑲
804
52
49
51
XTV26+10F
20
53
810
55
XYA3+EF6
56
57
XTN3+6FFZ
XTV26+10F
58
59
XYN26+F6FZ
810
61
62
63
XTV26+6F
66
XTV26+10F
58
65
XTV26+6F
75
67
68
69
804
70
71
XTV26+6F
76
811
G
F
E
D
C
B
A
1
2
3
4
5



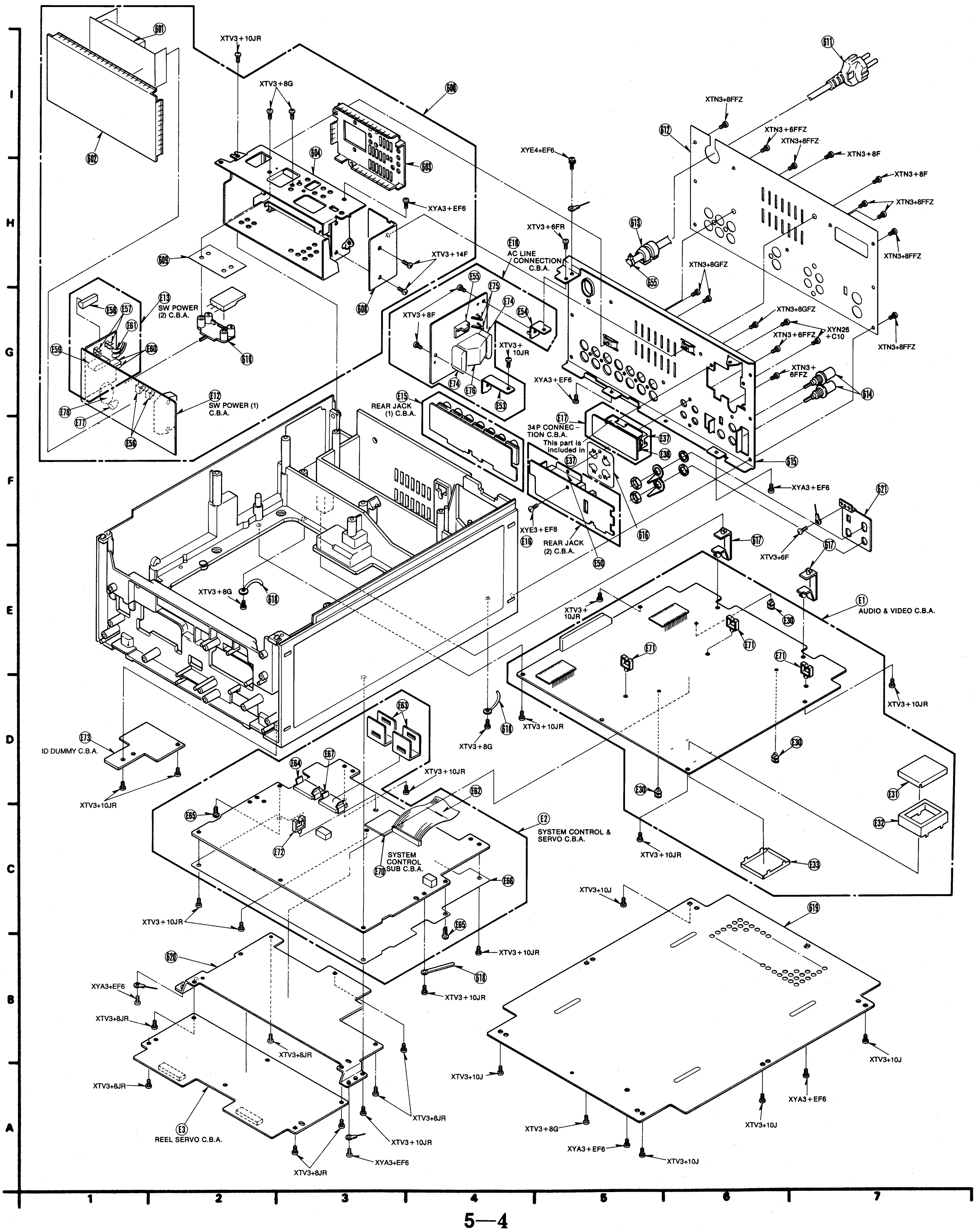
❷ Moving Mechanism Section


XTV26+6F
XTV26+6F
81
80
82
86
87
89
88
121
124
125
83
803
803
84
XYN2+F5
XTV26+6F
XTV26+6F
XTV26+6F
89
88
87
XSN26+4
92
XYN2+F5
127
128
126
129
94
93
95
XUEV3VW
85
97
XTV26+6F
XYNV0015
XYEV0004
99
122
123
90
91
96
XYEV0004
100
804
XUEV3VW
XUEV3VW
109
111
112
101
102
XUEV3VW
106
107
113
114
110
108
104
804
115
116
105
103
117
XTV26+8F
E21
G
F
E
D
C
B
A
1
2
3
4
5
6

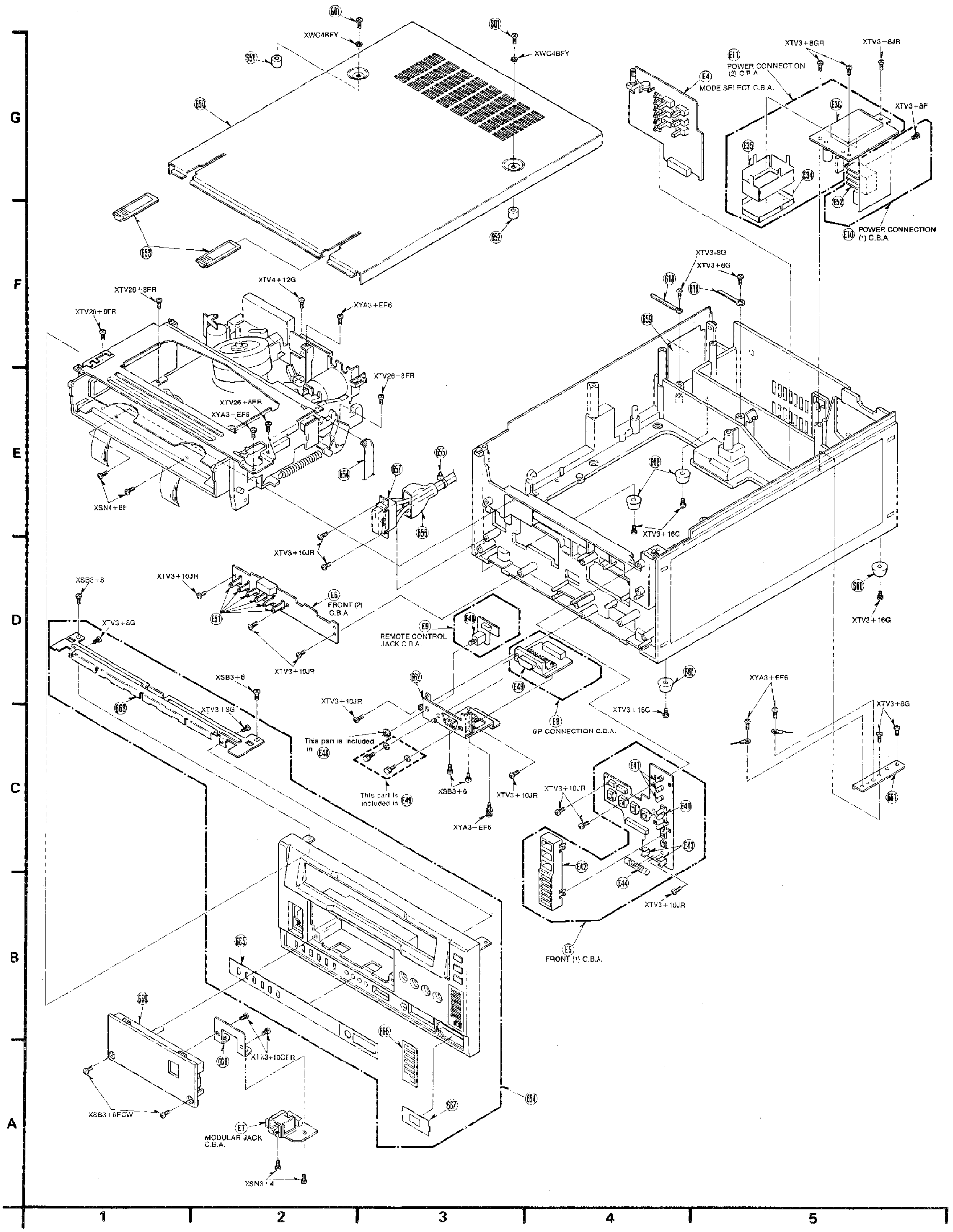
❸ *Cassette Compartment Section*


XTB26+8G
XTV26+6F
(142)
(141)
G
(140)
XTV3+8G
(144)
F
(143)
(145)
(151)
(172)
(E22)
(E68)
E
(146)
(147)
(148)
(149)
(153)
(152)
D
(150)
(173)
(157)
(156)
(E23)
(E69)
(154)
(155)
(163)
C
(158)
(159)
XUC2.5FP
(164)
(165)
(160)
(161)
B
(171)
(162)
(166)
(167)
A
(168)
1
2
3
4
5

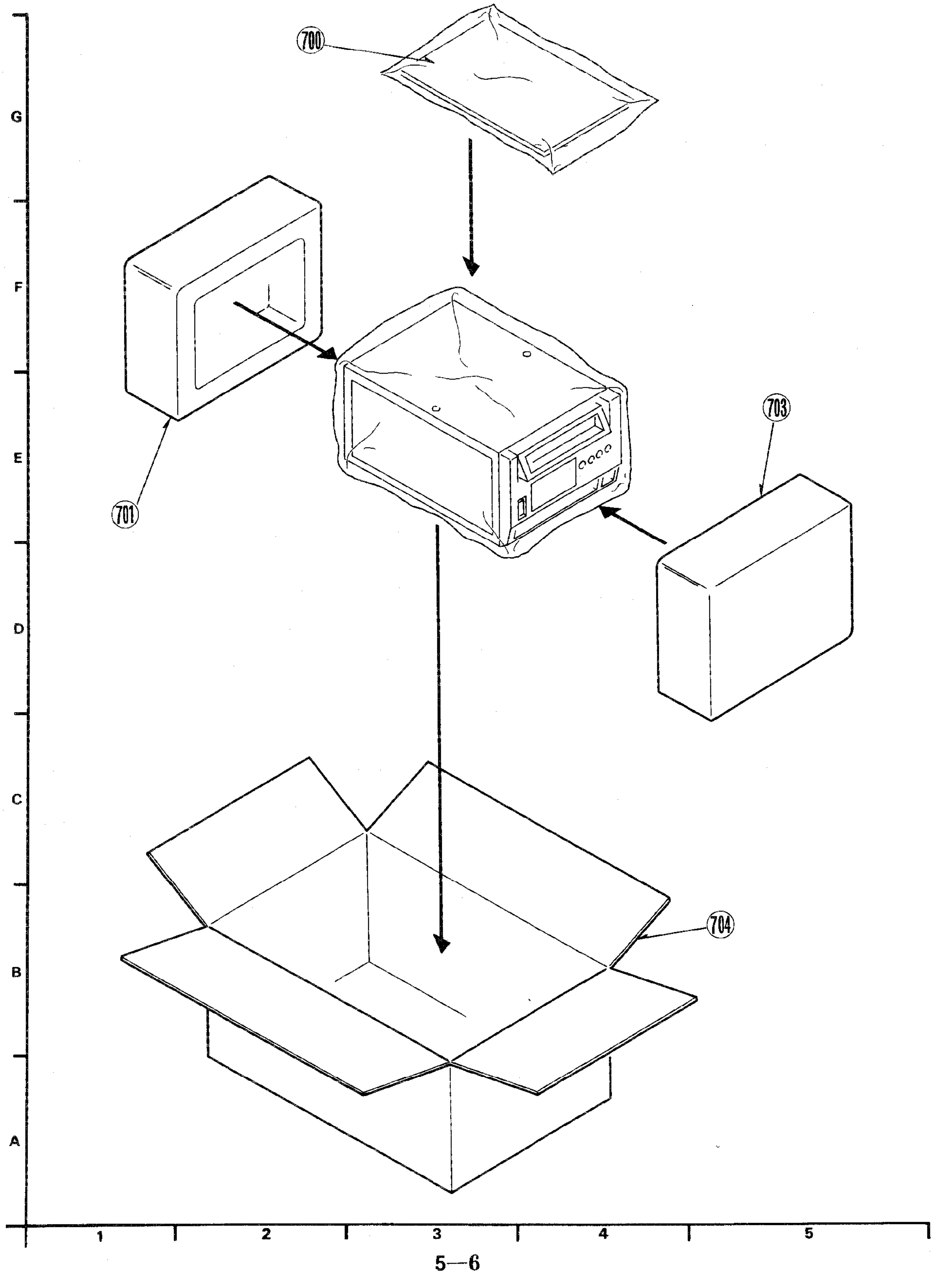
❹ Chassis Parts Section


601
602
600
603
604
XTV3+10JR
XTV3+8G
XYA3+EF6
XTV3+14F
608
609
610
E13
SW POWER
(2) C.B.A.
E58
E57
E61
E60
E59
E12
SW POWER (1)
C.B.A.
E78
E77
E56
611
612
XTN3+8FFZ
XTN3+6FFZ
XTN3+8FFZ
XTN3+8F
XTN3+8F
XTN3+8FFZ
XTN3+8FFZ
XTN3+8FFZ
XYE4+EF6
XTV3+6FR
E18
AC LINE
CONNECTION
C.B.A.
613
655
XTN3+8GFZ
XTN3+8GFZ
XTN3+6FFZ
XYN26
+C10
XTN3+
6FFZ
614
XTN3+8FFZ
E55
E75
E74
E54
XTV3+8F
XTV3+
10JR
E74
E76
E53
XYA3+EF6
E15
REAR JACK
(1) C.B.A.
E17
34P CONNEC-
TION C.B.A.
This part is
included in
E37
E37
E38
615
XYA3+EF6
621
XYE3+EF8
E16
REAR JACK
(2) C.B.A.
E50
616
617
617
XTV3+6F
XTV3+8G
618
XTV3+
10JR
E30
E71
E71
E71
E1
AUDIO & VIDEO C.B.A.
XTV3+10JR
E30
E30
E31
E32
E33
XTV3+10JR
XTV3+10JR
XTV3+8G
618
E73
ID DUMMY C.B.A.
XTV3+10JR
E63
E67
E64
XTV3+10JR
E62
E65
E72
E2
SYSTEM CONTROL &
SERVO C.B.A.
SYSTEM
CONTROL
SUB C.B.A.
E70
E66
XTV3+10JR
E65
XTV3+10JR
618
XTV3+10JR
620
XYA3+EF6
XTV3+8JR
XTV3+8JR
XTV3+8JR
E3
REEL SERVO C.B.A.
XTV3+8JR
XTV3+10JR
XYA3+EF6
XTV3+8JR
XTV3+10J
619
XTV3+10J
XTV3+10J
XYA3+EF6
XTV3+10J
XTV3+8G
XYA3+EF6
XTV3+10J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7

❺ Casing Parts Section


(801)
XWC4BFY
(801)
XWC4BFY
(651)
(650)
(652)
(653)
XTV3+8GR
XTV3+8JR
(E11)
POWER CONNECTION
(2) C.B.A.
(E4)
MODE SELECT C.B.A.
(E36)
XTV3+8F
(E35)
(E34)
(E52)
(E10)
POWER CONNECTION
(1) C.B.A.
XTV4+12G
XTV26+8FR
XTV26+8FR
XYA3+EF6
XTV26+8FR
XTV26+8FR
XYA3+EF6
XSN4+8F
(654)
(657)
(655)
(656)
XTV3+10JR
XTV3+8G
XTV3+8G
(618)
(618)
(659)
(660)
XTV3+16G
(660)
XTV3+16G
XSB3+8
XTV3+10JR
(E6)
FRONT (2)
C.B.A.
(E51)
XTV3+8G
XTV3+10JR
(E9)
REMOTE CONTROL
JACK C.B.A.
(E48)
(E49)
(E8)
9P CONNECTION C.B.A.
XSB3+8
(663)
XTV3+8G
(662)
XTV3+10JR
This part is included
in (E48)
This part is
included in (E49)
XSB3+6
XTV3+10JR
XYA3+EF6
(660)
XTV3+16G
XYA3+EF6
XTV3+8G
(661)
XTV3+10JR
(E41)
(E40)
(E43)
(E42)
(E44)
XTV3+10JR
(E5)
FRONT (1) C.B.A.
(665)
(669)
(668)
XTN3+10GFR
(666)
(664)
(667)
XSB3+6FCW
(E7)
MODULAR JACK
C.B.A.
XSN3+4
G
F
E
D
C
B
A
1
2
3
4
5

❻ *Packing Parts Section*


700
701
703
704
G
F
E
D
C
B
A
1
2
3
4
5

REPLACEMENT PARTS LIST

Notes:

1. • Be sure to make your orders of replacement parts according to this list.
   - "<R>" in Remark column indicates recommended parts.
   - "<M>" in Remark column indicates needed in the periodical maintenance.
2. IMPORTANT SAFETY NOTICE
   Components identified by " ! " have special characteristics important for safety. When replacing any of these components, use only the original ones.
   Meaning of symbol ! on this parts list is exactly the same as symbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified;
   All resistors are in OHMS (Ω), K=1,000Ω, M=1,000KΩ.
4. ITEM NUMBERS WITH CAPITAL LETTER E
   Item numbers with capital letter E (Example: E1, E2,...) in Ref. No. column mean that the parts are listed with the E item numbers in the exploded views.
5. The main assembled parts are shown below C.B.A. marked with "■".
6. When ordering parts, use part No. only from Part No. column.
7. Printed circuit board assembly with mark (NLA) is no longer available after discontinuation of the product.

1. SERVICING FIXTURES & TOOLS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFM8180HMDH	VHS ALIGNMENT TAPE	1	
		VFK0329	POST ADJ. SCREWDRIVER	1	
		VFK0132	BACK TENSION METER	1	(T2-H7-UM)
			(TENTELOMETER,		
			MADE IN U.S.A.)		
		VFK0191	POST ADJ. PLATE	1	
		VFK0133	DIAL TORQUE GAUGE	1	
		VFK0180	PLASTIC CLAMPER ONLY	1	
		VFK0134	ADAPTOR FOR VFK0133	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0328	H-POSITION ADJ. FIXTURE	1	
		VFK0330	FINE ADJ. SCREWDRIVER	1	
			(3mm PHI)		
		VFK0335	RETAINING RING REMOVER	1	
		VFK0326	HEX.WRENCH SET	1	
		VFK0343	CHECK LIGHT	1	
		MOR265	MOLYTONE GREASE	1	
		VFK27	HEAD CLEANING STICK	1	
		VFK0344	POST HEIGHT ADJ. FIXTURE	1	
		VFK0269	L TYPE SCREWDRIVER	1	
		VFK66	FAN TYPE TENSION GAUGE	1	

2. MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VXP1075	IMPEDANCE ROLLER UNIT	1	
2(1)		VML2293	IMPEDANCE ROLLER ARM UNIT	1	
3(1)		VMB1976	IMPEDANCE SPRING	1	
5(1)		VWJ0365	FLEXIBLE WIRE	1	
6(1)		VMA7982	HEAD AMP ANGLE (L)	1	
7(1)		VMA8095	IMPEDANCE ROLLER SUPPORT	1	
			ANGLE		
8(1)		VXL1888	TENSION ARM UNIT	1	
9(1)		VMB1975	TENSION SPRING	1	
10(1)		VMA7986	MOTOR BASE	1	
11(1)		VEM0360	LOADING MOTOR UNIT	1	<R><M>
12(1)		VEG0803	LOWER CYLINDER UNIT	1	<R><M>
14(1)		VEH0489	UPPER CYLINDER UNIT	1	<R><M>
15(1)		VMX1033	OIL SEAL	2	
16(1)		VMX1088	UPPER LIMITER	1	
17(1)		VDP1276	SUPPLY ROLLER	1	
18(1)		VMX1581	P1 COLLAR	1	
19(1)		VMX1794	LOWER LIMITER	1	
20(1)		VBS0038	FE HEAD	1	<R><M>
21(1)		VEK4171	MECH CONNECTION UNIT	1	
22(1)		VSS0257	MODE SW	1	<R><M>
28(1)		VMB1251	ADJUST SPRING	1	
30(1)		VXQ0006	THRUST SCREW UNIT	1	
31(1)		VXD0101	HOUSING UNIT	1	
32(1)		VED0127	A/C HEAD (1) UNIT	1	
33(1)		VED0138	A/C HEAD UNIT	1	
34(1)		VXA3649	A/C HEAD BASE UNIT	1	
35(1)		VMB1567	A/C HEIGHT SPRING	1	
36(1)		VMX1353	PINCH CAM CAP	1	
37(1)		VXL1902	PRESSURE ROLLER UNIT	1	<R><M>
38(1)		VMB1977	PINCH PRESSURE SPRING	1	
39(1)		VML1873	PINCH PRESSURE ARM	1	
40(1)		VMB1569	PINCH ARM SPRING	1	
41(1)		VML1874	PINCH LIFT ARM	1	
42(1)		VDG0577	PINCH CAM	1	
43(1)		VDG0651	PULL OUT SECTOR GEAR	1	
45(1)		VXL1485	P5 UNIT	1	
46(1)		VMB1554	P5 SPRING	1	
49(1)		VMB1996	CLEANING SPRING	1	
51(1)		VXA3980	HEAD CLEANING PLATE UNIT	1	
52(1)		VXL1979	HEAD CLEANING UNIT	1	
53(1)		VXP1093	ROLLER POST (S) UNIT	1	
55(1)		VXA3249	INCLIND BASE (S) (2) UNIT	1	<R><M>
56(1)		VMA7029	HOLDER PLATE (S)	1	
57(1)		VMA7660	PLATE	1	
58(1)		VMD0910	POST STOPPER	2	
59(1)		VXP1094	ROLLER POST (T) UNIT	1	
61(1)		VXA3213	INCLIND BASE (T) (1) UNIT	1	<R><M>
62(1)		VXA2687	INCLIND ADJUSTMENT PLATE U	1	
63(1)		VMA7983	HEAD AMP ANGLE (R)	1	
65(1)		VXA3871	SHIELD PLATE UNIT	1	
66(1)		VHN0110	ADJUST NUT	1	
67(1)		VMX1544	P4 UPPER LIMITER	1	
68(1)		VMX1568	P4 SLEEVE	1	
69(1)		VMX1795	P4 LOWER LIMITER	1	
70(1)		VDG0332	CONNECTION GEAR	1	
71(1)		VDG0483	PINCH SPEED DOWN GEAR	1	
73(1)		VJF0013	MINI CLAMPER	1	
74(1)		VDP1319	MOTOR PULLEY	1	
75(1)		VMA6895	MOUNT PLATE (L)	1	
76(1)		VMA6896	MOUNT PLATE (R)	1	
77(1)		VXS0098	EARTH ANGLE	1	
80(2)		VXP1082	WORM SHAFT UNIT	1	<R><M>
81(2)		VDV0215	LOADING BELT	1	<R><M>
82(2)		VEM0378	REEL MOTOR UNIT	1	
83(2)		VDG0581	WORM WHEEL	1	<R><M>
84(2)		VDG0582	INTERMEDIATE GEAR	1	
85(2)		VXA3646	GEAR BASE (1) UNIT	1	
86(2)		VXA3647	STATOR BASE UNIT	1	
87(2)		VMD0611	FG SUPPORT (1)	2	
88(2)		HW-300B	HOLE IC	2	<R>

REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
89(2)		VMD0621	FG SUPPORT (2)	2	
90(2)		VXR0187	TAKEUP REEL TABLE UNIT	1	
91(2)		VXR0186	SUPPLY REEL TABLE UNIT	1	
92(2)		VSJ0066	SOLENOID	1	
93(2)		VXZ0270	MAIN BRAKE (S) UNIT	1	<R><M>
94(2)		VXZ0271	MAIN BRAKE (T) UNIT	1	<R><M>
95(2)		VMB1978	BRAKE SPRING	1	
96(2)		VXP1088	ROTOR UNIT	1	<R><M>
97(2)		VXS0098	EARTH ANGLE UNIT	1	
99(2)		VEK4097	STATOR UNIT	1	<R><M>
100(2)		VMA6847	SUB PLATE	1	
101(2)		VXL1895	CAM FOLLOWER ARM UNIT	1	
102(2)		VML1861	DETENT ARM	1	
103(2)		VMM0218	MAIN ROD	1	
104(2)		VDG0578	MAIN CAM GEAR	1	<R><M>
105(2)		VDG0343	SUB CAM GEAR	1	
106(2)		VDG0580	CENTER GEAR	1	
107(2)		VXP0878	RETAINER GEAR UNIT	1	
108(2)		VDG0342	RING GEAR	1	
109(2)		VXA3144	SECTOR GEAR UNIT	1	
110(2)		VDG0579	LOADING CAM GEAR	1	<R><M>
111(2)		VDG0420	LOADING GEAR (T)	1	
112(2)		VDG0593	LOADING GEAR (S)	1	
113(2)		VMB1555	LOADING SPRING (T)	1	
114(2)		VMB1746	LOADING SPRING (S)	1	
115(2)		VXL1489	LOADING ARM (T) (1) UNIT	1	
116(2)		VXL1487	LOADING ARM (S) (1) UNIT	1	
117(2)		VML2304	CLEANING ROD	1	
121(2)		VJP1229R	CONNECTOR (2P)	1	
122(2)		VBK0048	MR HEAD	1	
123(2)		VJS2587	CONNECTOR (15P)	1	
124(2)		VJP1235T	CONNECTOR (8P)	1	
125(2)		VJP1229T	CONNECTOR (2P)	1	
126(2)		VMX0683	LED HOLDER (L)	1	
127(2)		VMX1565	LED HOLDER (A)	1	
128(2)		GL450	LED	1	<R>
129(2)		VEK4164	LED UNIT	1	
140(3)		VMA8166	TOP PLATE	1	
141(3)		VMA7992	CASSETTE HOLDER ANGLE	1	
142(3)		VMD1384	CASSETTE HOLDER CAP	1	
143(3)		VXA3690	CASSETTE HOLDER UNIT	1	
144(3)		VMD1387	HOLDER GUIDE (L)	1	
145(3)		VXA3691	HOLDER ANGLE UNIT	1	
146(3)		VML1882	DOOR OPEN LEVER	1	
147(3)		VMB1584	DOOR OPEN LEVER SPRING	1	
148(3)		VMD1386	HOLDER GUIDE (R)	1	
149(3)		VMB2063	RELEASE SPRING	1	
150(3)		VML2306	RELEASE LEVER	1	
151(3)		VXA3694	SIDE PLATE (L) UNIT	1	
152(3)		VML2305	OPENER LEVER	1	
153(3)		VXA3693	SIDE PLATE (R) UNIT	1	
154(3)		VML2288	DOWN SUPPORT LEVER	1	
155(3)		VMB1961	DOWN SUPPORT SPRING	1	
156(3)		VXA3498	SLIDE SW UNIT	1	
157(3)		VSS0258	SLIDE SW	1	<R>
158(3)		VXA3696	MAIN RACK UNIT	1	
159(3)		VDG0737	DAMPER	1	
160(3)		VXA3697	SUB RACK UNIT	1	
161(3)		VMB1997	CLUTCH SPRING	1	
162(3)		VMB1780	RACK C SPRING	1	
163(3)		VXP1089	MAIN SHAFT UNIT	1	
164(3)		VMB1999	SUB WIPER SPRING (L)	1	
165(3)		VML1878	SUB WIPER ARM (L)	1	
166(3)		VML1879	SUB WIPER ARM (R)	1	
167(3)		VMB1998	SUB WIPER SPRING (R)	1	
168(3)		VMA7988	CASSETTE GUIDE	1	
171(3)		VXA3975	CASSETTE COMPARTMENT UNIT	1	
172(3)		VMA7989	CASSETTE HOLDER	1	
173(3)		VXA3692	HOLDER GUIDE (R) UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
600(4)		VEK4982	POWER SUPPLY UNIT	1	
601(4)		VMZ1440	INSULATION SHEET (A)	1	
602(4)		VSC2237	POWER SHIELD CASE (BOTTOM)	1	
603(4)		VSC2235	POWER SHIELD CASE (TOP)	1	
604(4)		VXA3571	POWER SHIELD CASE (MAIN)	1	
608(4)		VSC2238	L TYPE HEAT SINK	1	
609(4)		VMZ1224	INSULATION SHEET (B)	1	
610(4)		VGQ1377	TR HOLDER	1	
611(4)		VJA0569	AC CORD	1	AG-6840H-E ONLY
611(4)		VJA0570	AC CORD	1	AG-6840H-A ONLY
611(4)		VJA0571	AC CORD	1	AG-6840H-B ONLY
612(4)		VGH2484	JACK NAME PLATE	1	
613(4)		VDB0293	BUSHING	1	
614(4)		VJS1440	BNC JACK	2	
615(4)		VJH0604	JACK PANEL	1	
616(4)		VMP2680	JACK EARTH ANGLE	1	
617(4)		VKC0129	HINGE CLIP	2	
618(4,5)		VJR3	CLAMPER	5	
619(4)		VKU0332	BOTTOM PLATE	1	<R>
620(4)		VMP2643	BOARD SUPPORT ANGLE	1	
621(4)		VMP2833	JACK	1	
650(5)		VGM0615	TOP PANEL	1	<R>
651(5)		VMX0871	TOP SPACER (B)	1	
652(5)		VMX1789	TOP SPACER (A)	1	
653(5)		VGQ1313	TOP CAP	2	
654(5)		VWJ04CN280CC	FLEXIBLE WIRE	1	<R>
655(4,5)		VJF0215	BINDER	2	
656(5)		VMZ0580	SWITCH COVER	1	<R>
657(5)		VSW0031	POWER SWITCH	1	<R><!>
659(5)		VMZ1570	INSULATION SHEET	1	
660(5)		VMG0404	RUBBER FOOT	4	
661(5)		VMA8159	EARTH ANGLE	1	
662(5)		VMP2641	9P CONNECTOR ANGLE	1	
663(5)		VMP2640	FRONT PANEL SUPPORT ANGLE	1	
664(5)		VYP3332	FRONT PANEL UNIT	1	<R>
665(5)		VGH2304	FRONT NAME PLATE (B)	1	<R>
666(5)		VGH2303	FRONT NAME PLATE (A)	1	<R>
667(5)		VGH2305	HOUR METER COVER	1	<R>
668(5)		VMP2663	METER CONNECTOR ANGLE	1	
669(5)		VGP2495	METER COVER	1	<R>
700(6)		VQT3737	OPERATING INSTRUCTIONS	1	ENGLISH
700(6)		VQT3738	OPERATING INSTRUCTIONS	1	GERMAN & FRENCH
701(6)		VPN2704	CUSHION (B)	1	
703(6)		VPN2703	CUSHION (A)	1	
704(6)		VPG5469	PACKING CASE	1	AC-6840H-E ONLY
704(6)		VPG5470	PACKING CASE	1	AG-6840H-B ONLY
704(6)		VPG5471	PACKING CASE	1	AG-6840H-A ONLY
801(5)		VHD0222	SCREW	2	
803(1,2)		VMX0653	CUT WASHER	3	
804(1,2)		VMX1079	CUT WASHER	8	
805(1)		VHD0425	SCREW	2	
806(1)		VHD0322	ADJUST SCREW	1	
807(1)		VHD0089B	AZIMUTH SCREW	1	
808(1)		VHN0063	M4 NYLON NUT	1	
809(1)		VHN0023	M3 NYLON NUT	1	
810(1)		XXEV0004	SCREW	2	
811(1)		VHD0342	SCREW	3	

3. ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E1		VEP04311A	AUDIO & VIDEO C.B.A.	1	(NLA)<R>
E2		VEP06631B	SYSTEM CTL. & SERVO C.B.A.	1	(NLA)<R>
					INCLUDING THE
					SUB SYSTEM CTL.
					C.B.A. (VEP00Q58A)
E70		VEP00Q58A	SUB SYSTEM CTL. C.B.A.	1	(NLA)<R>
					PARTS LIST IS
					INCLUDED IN SYSTEM
					CTL. & SERVO C.B.A.
					(VEP06631B)
E3		VEP02355A	REEL SERVO C.B.A.	1	(NLA)<R>
E4		VEP06632A	MODE SELECT C.B.A.	1	(NLA)<R>
E5		VEP06621A	FRONT (1) C.B.A.	1	(NLA)<R>
E6		VEP06622A	FRONT (2) C.B.A.	1	(NLA)<R>
E7		VEP04288B	MODULAR JACK C.B.A.	1	(NLA)<R>
E8		VEP06626A	9P CONNECTION C.B.A.	1	(NLA)<R>
E9		VEP06625B	REMOTE CONTROL JACK C.B.A.	1	(NLA)<R>
E10		VEP01404A	POWER CONNECTION (1) C.B.A.	1	(NLA)<R>
E11		VEP01405A	POWER CONNECTION (2) C.B.A.	1	(NLA)<R>
E12		VEP01440A	SW POWER (1) C.B.A.	1	(NLA)<R>
E13		VEP01441A	SW POWER (2) C.B.A.	1	(NLA)<R>
E14		VEP05151C	HEAD AMP C.B.A.	1	(NLA)<R>
E15		VEP06627A	REAR JACK (1) C.B.A.	1	(NLA)<R>
E16		VEP06628A	REAR JACK (2) C.B.A.	1	(NLA)<R>
E17		VEP06630B	34P CONNECTION C.B.A.	1	(NLA)<R>
E18		VEP01407B	AC LINE CONNECTION C.B.A.	1	(NLA)<R>
E19		VEP00P76A	MOTOR BASE C.B.A.	1	(NLA)<R>
E21		VEK2657	TENSION DETECTOR UNIT	1	(NLA)<R>
E22		VEK3578	PHOTO TR. (L) UNIT	1	(NLA)<R>
E23		VEK4058	PHOTO TR. (R) UNIT	1	(NLA)<R>
E73		VEP00Q72A	ID DUMMY C.B.A.	1	(NLA)<R>
	■	VEP04311A	AUDIO & VIDEO C.B.A.		
C3018		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3019		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C3024		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3026		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C3027		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C3030		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3031		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3040		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3041		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3042		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C3043		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3045		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3046		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3047		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3055		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C3058-63		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	6	
C3065		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C3066		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	1	
C3067		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3068		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3069		ECEA0JU331	E.CAPACITOR 6.3V 330U	1	
C3070		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3072,73		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C3074		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3075		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3076		ECEA0JKN470	E.CAPACITOR 6.3V 47U	1	
C3077		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3078		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C3079,80		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C3081		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3082		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C3083		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3085		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3086		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3087		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3088		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3089		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3090		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3091		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3092		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3093		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3094		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C3096		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3097		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3098		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3099		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3100		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3101		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3102		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3103		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3104,05		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3107		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3108		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3109		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3113		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3116		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3117		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3118		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3119		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3120		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3121		ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C3122		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3123		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3124		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3125		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C3126,27		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3128		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C3129		ECEA1CU221	E.CAPACITOR 16V 220U	1	
C3130		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3131		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3132		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C3133		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3134		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3135		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C3138		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3139		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C3142		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3143		ECEA0JKN220	E.CAPACITOR 6.3V 22U	1	
C3144		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3145		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C3146		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3147		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C3148		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3149		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4001-04		VCEA1CAC100	E.CAPACITOR 16V 10U	4	
C4005		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4006		VCEA1CAC330J	E.CAPACITOR 16V 33U	1	
C4007		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4008,09		VCEA1CAC330J	E.CAPACITOR 16V 33U	2	
C4010,11		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C4012		VCEA1CAC330J	E.CAPACITOR 16V 33U	1	
C4013		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4014		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4016		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	1	
C4017		ECQB1H183JH	P.CAPACITOR 50V 0.018U	1	
C4018		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4019		ECQB1H182JH	P.CAPACITOR 50V 1800P	1	
C4020		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4021		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4022		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4023		ECEA50M1	E.CAPACITOR 50V 1U	1	
C4024		VCEA0JAC101J	E.CAPACITOR 5.3V 100U	1	
C4025		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C4026		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4027		VCEA1CAC470	E.CAPACITOR 16V 47U	1	
C4028		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4029		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4030		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4031		ECEA50ZR68	E.CAPACITOR 50V 0.68U	1	
C4032		VCEA1EAC4R7	E.CAPACITOR 25V 4.7U	1	
C4033		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4034		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4035		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4036		ECEA1CU221	E.CAPACITOR 16V 220U	1	
C4037		ECEA50ZR68	E.CAPACITOR 50V 0.68U	1	
C4038		VCEA1EAC4R7	E.CAPACITOR 25V 4.7U	1	
C4039		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4040		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4041		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C4042		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4043,44		ECEA1CK470	E.CAPACITOR 16V 47U	2	
C4045-48		VCEA1CAC100	E.CAPACITOR 16V 10U	4	
C4049		VCEA1HAC4R7J	E.CAPACITOR 50V 4.7U	1	
C4050		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4051		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4052		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4053		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	1	
C4054		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4055		ECQB1H183JH	P.CAPACITOR 50V 0.018U	1	
C4056		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4057		ECQB1H182JH	P.CAPACITOR 50V 1800P	1	
C4058		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4059		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C4060		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4061		ECEA50M1	E.CAPACITOR 50V 1U	1	
C4062		VCEA0JAC101J	E.CAPACITOR 6.3V 100U	1	
C4063		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C4064		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4065		ECEA1CU221	E.CAPACITOR 16V 220U	1	
C4066		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4068		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C4069		ECQM1H332JV	P.CAPACITOR 50V 3300P	1	
C4070		ECQM1H682JV	P.CAPACITOR 50V 6800P	1	
C4071,72		ECCD2H151J	C.CAPACITOR 500V 150P	2	
C4073		ECQF6182KZ	P.CAPACITOR 630V 1800P	1	
C4074		VCEA1HAC4R7J	E.CAPACITOR 50V 4.7U	1	
C4075		VCEA1CAC470	E.CAPACITOR 16V 47U	1	
C4115		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4301		ECEA1CU221	E.CAPACITOR 16V 220U	1	
C4302,03		VCEA1HAC4R7J	E.CAPACITOR 50V 4.7U	2	
C4304		VCEA1CAC220	E.CAPACITOR 16V 22U	1	
C4305		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4306		VCEA1CAC101	E.CAPACITOR 16V 100U	1	
C4307		VCEA1AAC101	E.CAPACITOR 10V 100U	1	
C4308,09		VCEA1HAC010	E.CAPACITOR 50V 1U	2	
C4310,11		VCEA1HAC3R3	E.CAPACITOR 50V 3.3U	2	
C4312		ECEA1CU471	E.CAPACITOR 16V 470U	1	
C4313		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4314		ECQB1H682JH	P.CAPACITOR 50V 6800P	1	
C4315		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4316		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4317		VCEA1EAC100J	E.CAPACITOR 25V 10U	1	
C4318		VCEA1EAC4R7	E.CAPACITOR 25V 4.7U	1	
C4319		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4320		VCEA1CAC470	E.CAPACITOR 16V 47U	1	
C4321		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C4322-24		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	3	
C4325		VCEA1HAD3R3J	E.CAPACITOR 50V 3.3U	1	
C4326		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C4327,28		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C4329,30		VCEA1HAD4R7J	E.CAPACITOR 50V 4.7U	2	
C4331		ECQB1H682JH	P.CAPACITOR 50V 6800P	1	
C4332		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C4333		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4334		VCEA1EAC100J	E.CAPACITOR 25V 10U	1	
C4335		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4336		VCEA1EAC4R7	E.CAPACITOR 25V 4.7U	1	
C4337		VCEA1CAC470	E.CAPACITOR 16V 47U	1	
C4338		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C4339		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C4340,41		ECUM1H122JN	C.CAPACITOR CH 50V 1200P	2	
C4342-44		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	3	
C4345		VCEA1HAD3R3J	E.CAPACITOR 50V 3.3U	1	
C4346		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C4347-49		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C4350,51		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C4352		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4353		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C4354		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4355		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4356		VCEA1HAC010	E.CAPACITOR 50V 1U	1	
C4357		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4358		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4359,60		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C4361,62		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C4363,64		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C4365		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C4366		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4367		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4368		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C4369-71		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C4372-76		VCEA1CAC100	E.CAPACITOR 16V 10U	5	
C4377		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4378		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
D3002		MA151WK	DIODE	1	<R>
D3003		MA151K	DIODE	1	<R>
D3004		MA723	DIODE	1	<R>
D3005-07		MA151K	DIODE	3	<R>
D3008		MA151WK	DIODE	1	<R>
D3009,10		MA151K	DIODE	2	<R>
D4001,02		MA151K	DIODE	2	<R>
D4003		MA151WK	DIODE	1	<R>
D4301,02		MA151WK	DIODE	2	<R>
DL3004		VLD0153	DELAY	1	
FL3003		ELB4M022	FILTER	1	
FL3004		VLF0299	FILTER	1	
FL4001,02		VLF0402	FILTER	2	
FL4301		VLF0697	FILTER	1	
IC3003		VEFH03D	HIC	1	<R>
IC3004		NJM2233BDA	IC	1	<R>
IC3005		AN3495K	IC	1	<R>
IC3006		VEFH04F	IC	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4001,C2		RC4558P	IC	2	<R>
IC4003,04		LA7296	IC	2	<R>
IC4005		CXA1101P	IC	1	<R>
IC4006		MC14066BCP	IC	1	<R>
IC4007		RC4558P	IC	1	<R>
IC4301		BA7700K1	IC	1	<R>
IC4302		MC78L05ACP	IC	1	<R>
IC4303,04		RC4558P	IC	2	<R>
JW3001-03		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
L3003		VLQEL05F101K	COIL 100UH	1	
L3008		VLQEL05F101K	COIL 100UH	1	
L3010-12		VLQEL05F101K	COIL 100UH	3	
L3013		VLQEL05F220J	COIL 22UH	1	
L3016		VLQEL05F101K	COIL 100UH	1	
L3017		VLQEL05F270J	COIL 27UH	1	
L3019		VLQEL05F6R8J	COIL 6.8UH	1	
L3020		VLQEL05F101J	COIL 100UH	1	
L3021		VLQEL05F120J	COIL 12UH	1	
L3022,23		VLQEL05F101K	COIL 100UH	2	
L3025		VLQEL05F151J	COIL 150UH	1	
L3029		VLQEL05F820J	COIL 82UH	1	
L3030,31		VLQEL05F101K	COIL 100UH	2	
L3032		VLQEL05F470J	COIL 47UH	1	
L3033,34		VLQEL05F101K	COIL 100UH	2	
L3039		VLQEL05F470J	COIL 47UH	1	
L3041		VLQEL05F101K	COIL 100UH	1	
L4001,02		VLQEL07F153J	COIL 15MH	2	
L4003,04		VLQEL05F101K	COIL 100UH	2	
L4005		VLQEL05F102K	COIL 1000UH	1	
L4301-05		VLQEL05F101K	COIL 100UH	5	
L4306		VLQEL05F121K	COIL 120UH	1	
L4307		VLQEL05F101K	COIL 100UH	1	
P3001		VJP1230B	CONNECTOR(MALE) 3P	1	
P3002		VJP1511T	CONNECTOR(MALE) 11P	1	
P3003		VJP1233G	CONNECTOR(MALE) 6P	1	
P3004		VJP1237R	CONNECTOR(MALE) 10P	1	
P3006		VJP1230G	CONNECTOR(MALE) 3P	1	
P3007		VJP1230R	CONNECTOR(MALE) 3P	1	
P3008		VJP1229T	CONNECTOR(MALE) 2P	1	
P4001		VJP1235T	CONNECTOR(MALE) 8P	1	
P4002		VJP1233T	CONNECTOR(MALE) 6P	1	
P4003		VJP1239T	CONNECTOR(MALE) 12P	1	
P4004		VJP1235T	CONNECTOR(MALE) 8P	1	
P4005		VJP1230T	CONNECTOR(MALE) 3P	1	
P4006		VJP1230R	CONNECTOR(MALE) 3P	1	
P4007		VJP1231T	CONNECTOR(MALE) 4P	1	
P4301		VJP1231T	CONNECTOR(MALE) 4P	1	
P4302		VJP1233T	CONNECTOR(MALE) 6P	1	
P4303		VJP1234T	CONNECTOR(MALE) 7P	1	
P4304		VJP1235R	CONNECTOR(MALE) 8P	1	
Q3004,05		MSD601	TRANSISTOR	2	<R>
Q3006		MSB709	TRANSISTOR	1	<R>
Q3009		MSC2295	TRANSISTOR	1	<R>
Q3010,11		MSD601	TRANSISTOR	2	<R>
Q3012		MSC2295	TRANSISTOR	1	<R>
Q3013		MSB709	TRANSISTOR	1	<R>
Q3014,15		MSC2295	TRANSISTOR	2	<R>
Q3016		2SD636	TRANSISTOR	1	(Q,R,S)<R>
Q3017		2SB643	TRANSISTOR	1	<R>
Q3019		MSD601	TRANSISTOR	1	<R>
Q3020		2SB641	TRANSISTOR	1	<R>
Q3021,22		MSC2295	TRANSISTOR	2	<R>
Q3023		MSD601	TRANSISTOR	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4001		MSB709	TRANSISTOR	1	<R>
Q4002,03		2SD1328	TRANSISTOR CHIP	2	<R>
Q4004		2SD973A	TRANSISTOR	1	(R)<R>
Q4301		2SD638	TRANSISTOR	1	<R>
Q4302-05		MSD601	TRANSISTOR	4	<R>
Q4306,07		2SD1328	TRANSISTOR CHIP	2	<R>
Q4308,09		MSD601	TRANSISTOR	2	<R>
QR3001		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3002		MRN1407	TRANSISTOR-RESISTOR	1	<R>
QR3003		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3004		DTC363EK	TRANSISTOR-RESISTOR	1	<R>
QR3005		MRN2402	TRANSISTOR-RESISTOR	1	<R>
QR3007		MRN2402	TRANSISTOR-RESISTOR	1	<R>
QR3008		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3011		MRN2404	TRANSISTOR-RESISTOR	1	<R>
QR4001		MRN2402	TRANSISTOR-RESISTOR	1	<R>
QR4002-07		MRN1404	TRANSISTOR-RESISTOR	6	<R>
QR4301		MRN2404	TRANSISTOR-RESISTOR	1	<R>
QR4302,03		MRN1404	TRANSISTOR-RESISTOR	2	<R>
QR4304		MRN2402	TRANSISTOR-RESISTOR	1	<R>
R3009		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R3010		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R3012		ERJ6GEYJ124	M.RESISTOR CH1/10W 120K	1	
R3013		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R3014,15		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	2	
R3016		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3028		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R3029		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R3030		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R3031		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R3036,37		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	2	
R3044		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3045		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R3046		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R3047		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R3048		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R3049		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3050,51		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R3054		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3055		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R3056		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R3057		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3058		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3059,60		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R3061		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	1	
R3062		ERJ6GEYJ824	M.RESISTOR CH1/10W 820K	1	
R3063,64		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R3065		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R3066		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3067		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3068		ERJ6GEYJ271	M.RESISTOR CH1/10W 270	1	
R3069,70		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R3071		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R3072		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R3073		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3074,75		ERJ6GEYJ561	M.RESISTOR CH1/10W 560	2	
R3076		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R3077		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3078		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3079,80		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	2	
R3081		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3082		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R3084		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R3085,86		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	2	
R3087		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R3088		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3089		ERJ6GEYJ331	M.RESISTOR CH1/10W 330	1	
R3091		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3093		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3094		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R3095,96		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	2	
R3097		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R3098		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R3100		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R3101		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3104		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R3105		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R3106		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R3107		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3108		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	1	
R3109		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R3110		ERJ6GEYJ182	M.RESISTOR CH1/10W 1.8K	1	
R3111		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3112,13		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R3115		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3116		ERJ6GEYJ750	M.RESISTOR CH1/10W 75	1	
R3117		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3119		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3120		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R3121		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3123		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R3124		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3125		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R3126		ERJ6GEYJ681	M.RESISTOR CH1/10W 680	1	
R3127		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R3128		ERJ6GEYG273	M.RESISTOR CH1/10W 27K	1	
R3129		ERJ6GEYG752	M.RESISTOR CH1/10W 7.5K	1	
R3130		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R3131		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	1	
R3132		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R3133		ERJ6GEYG472	M.RESISTOR CH1/10W 4.7K	1	
R3134		ERJ6GEYG152	M.RESISTOR CH1/10W 1.5K	1	
R3135		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R3144		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3155		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R3156		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R3157		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R3158		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R3159		ERDS2TJ121	C.RESISTOR 1/4W 120	1	
R4001		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4005-08		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	4	
R4009-12		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	4	
R4013		VRE0034E223	M.RESISTOR CH1/10W 22K	1	
R4014		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R4015		ERJ6GEYJ151	M.RESISTOR CH1/10W 150	1	
R4016		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4017		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R4018		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4019		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R4020,21		ERJ6GEYJ121	M.RESISTOR CH1/10W 120	2	
R4022		ERJ6GEYJ334	M.RESISTOR CH1/10W 330K	1	
R4023		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R4024		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R4025		ERJ6GEYJ153	M.RESISTOR CH1/10W 15K	1	
R4027		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4028		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R4029		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R4030		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R4031		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4032		VRE0034E433	M.RESISTOR CH1/10W 43K	1	
R4033		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R4034		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R4035		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R4036		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R4037		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4038,39		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	2	
R4040		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R4041		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R4042		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4043,44		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R4045		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R4046,47		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4048,49		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	2	
R4050,51		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4052,53		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4054		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4055,56		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4057		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4058		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4059		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R4060		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R4061		VRE0034E223	M.RESISTOR CH1/10W 22K	1	
R4062		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R4063		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4064		ERJ6GEYJ151	M.RESISTOR CH1/10W 150	1	
R4065		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4066		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R4067		ERJ6GEYJ121	M.RESISTOR CH1/10W 120	1	
R4068		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R4069		ERJ6GEYJ121	M.RESISTOR CH1/10W 120	1	
R4070		ERJ6GEYJ334	M.RESISTOR CH1/10W 330K	1	
R4071		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R4072		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R4073		ERJ6GEYJ153	M.RESISTOR CH1/10W 15K	1	
R4074		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4075		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R4076		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R4077		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R4078		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R4079		ERDS2TJ4R7	C.RESISTOR 1/4W 4.7	1	
R4080		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4081-87		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	7	
R4092		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R4093,94		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	2	
R4301		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	1	
R4302		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4303,04		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	2	
R4305,06		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4307,08		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R4309		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4310,11		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	2	
R4312		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R4313,14		ERJ6GEYG821	M.RESISTOR CH1/10W 820	2	
R4315		ERJ6GEYG681	M.RESISTOR CH1/10W 680	1	
R4316		ERJ6GEYG112	M.RESISTOR CH1/10W 1.1K	1	
R4317		ERJ6GEYG103	M.RESISTOR CH1/10W 10K	1	
R4318		ERJ6GEYG183	M.RESISTOR CH1/10W 18K	1	
R4319		ERJ6GEYG562	M.RESISTOR CH1/10W 5.6K	1	
R4320		ERJ6GEYG104	M.RESISTOR CH1/10W 100K	1	
R4321		ERJ6GEYG822	M.RESISTOR CH1/10W 100	1	
R4322		ERJ6GEYG333	M.RESISTOR CH1/10W 33K	1	
R4323		ERJ6GEYG561	M.RESISTOR CH1/10W 560	1	
R4324		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4325		ERJ6GEYG274	M.RESISTOR CH1/10W 270K	1	
R4326,27		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	2	
R4328		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4329,30		ERJ6GEYG821	M.RESISTOR CH1/10W 820	2	
R4331		ERJ6GEYG681	M.RESISTOR CH1/10W 1.1K	1	
R4332		ERJ6GEYG112	M.RESISTOR CH1/10W 1.1K	1	
R4333		ERJ6GEYG103	M.RESISTOR CH1/10W 10K	1	
R4334		ERJ6GEYG183	M.RESISTOR CH1/10W 18K	1	
R4335		ERJ6GEYG562	M.RESISTOR CH1/10W 5.6K	1	
R4336		ERJ6GEYG104	M.RESISTOR CH1/10W 100K	1	
R4337		ERJ6GEYG333	M.RESISTOR CH1/10W 33K	1	
R4338		ERJ6GEYG561	M.RESISTOR CH1/10W 560	1	
R4339		ERJ6GEYG123	M.RESISTOR CH1/10W 12K	1	
R4340		ERJ6GEYG393	M.RESISTOR CH1/10W 39K	1	
R4341		ERJ6GEYG123	M.RESISTOR CH1/10W 12K	1	
R4342		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4343		ERJ6GEYJ334	M.RESISTOR CH1/10W 330K	1	
R4346		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4347		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R4348		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R4349		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4350		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4351		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4352-54		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	3	
R4355		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R4356		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4357		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R4358		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R4359,60		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4361,62		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	2	
R4363		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R4364		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4365		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R4366		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R4367		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R4368		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4369-72		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	4	
R4373,74		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	2	
R4375,76		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R4377,78		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	2	
R4379		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R4380		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R4381		ERJ6GEYJ182	M.RESISTOR CH1/10W 1.8K	1	
R4382,83		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	2	
R4384		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R4385,86		ERJ6GEYJ151	M.RESISTOR CH1/10W 150	2	
T4001		VLT0538	TRANSFORMER	1	<R>
VR3003		EVN38CA00B24	V.RESISTOR 20K	1	
VR3005		EVN38CA00B22	V.RESISTOR 200	1	
VR4001-04		EVN38CA00B14	V.RESISTOR 10K	4	
VR4005		EVN38CA00B24	V.RESISTOR 20K	1	
VR4006		EVN38CA00B14	V.RESISTOR 10K	1	
VR4007		EVN38CA00B24	V.RESISTOR 20K	1	
VR4008		EVN38CA00B14	V.RESISTOR 10K	1	
VR4009,10		EVN38CA00B25	V.RESISTOR 200K	2	
VR4301		EVN38CA00B25	V.RESISTOR 200K	1	
VR4302,03		EVN38CA00B22	V.RESISTOR 200	2	
VR4304		EVN38CA00B24	V.RESISTOR 20K	1	
VR4305		EVN38CA00B14	V.RESISTOR 10K	1	
VR4306		EVN38CA00B24	V.RESISTOR 20K	1	
VR4307-09		EVN38CA00B14	V.RESISTOR 10K	3	
VR4310		EVN38CA00B13	V.RESISTOR 1K	1	
X3002		VSX0162	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E30		VKC0295	SPACER	3	
E31		VSC2689	SHIELD CASE	1	
E32		VSC2690	SHIELD CASE	1	
E33		VSC3103	SHIELD CASE	1	
E71		VJF0384	CLUMPER	3	
	■	VEP06631B	SYSTEM CTL. & SERVO C.B.A.		INCLUDING THE
					SUB SYSTEM CTL.
					C.B.A. (VEP00Q58A)
C2001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2002		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2003		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2004		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C2005		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C2006		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2007		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2008		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2009		ECEA1AK470	E.CAPACITOR 10V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2010,11		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C2012		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C2013		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2014		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2015		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2016		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C2018		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2019		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2020		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2021,22		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C2023		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2024		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2025		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2026		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C2027		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2029-37		ECUM1H271JN	C.CAPACITOR CH 50V 270P	9	
C2038		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2039		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2040		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2041		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2042		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2043		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2044		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2045,46		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	2	
C2047,48		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C2049		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C2050		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2051,52		ECEA1HKR33	E.CAPACITOR 50V 0.33U	2	
C2053		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2054		ECEA1EK100	E.CAPACITOR 25V 10U	1	
C2055		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2056		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C2057		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2058-60		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2061		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C2062,63		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	2	
C2064		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2065		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2066		ECEA1EK100	E.CAPACITOR 25V 10U	1	
C2067		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2068		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2069-72		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2073-75		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2076-78		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	3	
C2079,80		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C2081,82		ECEA1EK100	E.CAPACITOR 25V 10U	2	
C2083		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C2084		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2085		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2086-89		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	4	
C2090,91		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C2092		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2301		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2302		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C6001,02		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C6003		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C6004		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6005		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C6006		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6007,08		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6009		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C6010		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C6011,12		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C6013		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C6014		ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C6017		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6018		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6019		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C6020		ECEA1EK330	E.CAPACITOR 25V 33U	1	
C6021		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C6022		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C6025		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6026		ECEA1CU102	E.CAPACITOR 16V 1000U	1	
C6027		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6028		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D2001,02		MA153	DIODE	2	<R>
D2003		11EQS04	DIODE	1	<R>
D6003		MA153	DIODE	1	<R>
D6004		ERA81004	DIODE	1	<R>
D6005,06		MA151K	DIODE	2	<R>
D6007,08		11ES1	DIODE	2	<R>
IC2001		MN1280R	IC	1	<R>
IC2002		MN6742VCRH	IC	1	<R>
IC2003		AN3726K	IC	1	<R>
IC2004		AN3815K	IC	1	<R>
IC2005		XRA6435S	IC	1	<R>
IC2006		AN78N05	IC	1	<R>
IC2007		AN78L09	IC	1	<R>
IC2008		LM393P	IC	1	<R>
IC2010-12		LM358P	IC	3	<R>
IC2013		UPD65005G373	IC	1	<R>
IC2014		LM393P	IC	1	<R>
IC2301		MC14538BCP	IC	1	<R>
IC6001		MN188166VUI	IC	1	<R>
IC6002		MN1280R	IC	1	<R>
IC6003		M54649L	IC	1	<R>
IC6004		AN6912S	IC	1	<R>
IC6005		BA6250	IC	1	<R>
IC6006-10		AN90B22	IC	5	<R>
IC6012		MC14011BF	IC	1	<R>
L2001		VLQEL05F101K	COIL 100UH	1	
L2002		VLQEL05F470K	COIL 47UH	1	
L2003-06		VLQEL05F221K	COIL 220UH	4	
P1301		VJP1236T	CONNECTOR(MALE) 9P	1	
P1302		VJP1243T	CONNECTOR(MALE) 3P	1	
P2001		VJP1233T	CONNECTOR(MALE) 6P	1	
P2002		VJP1874T	CONNECTOR(MALE) 3P	1	
P2003		VJP1879T	CONNECTOR(MALE) 8P	1	
P2005		VJS1444	CONNECTOR(FEMALE) 10P	1	
P6002		VJS2149W	CONNECTOR(FEMALE) 4P	1	
P6003		VJP1235T	CONNECTOR(MALE) 8P	1	
P6004		VJP1246R	CONNECTOR(MALE) 6P	1	
P6005		VJP1251T	CONNECTOR(MALE) 11P	1	
P6008		VJP1231T	CONNECTOR(MALE) 4P	1	
P6009		VJP1235R	CONNECTOR(MALE) 8P	1	
P6010		VJP1511T	CONNECTOR(MALE) 11P	1	
P6011		VJP1252T	CONNECTOR(MALE) 12P	1	
P6012		VJP1246T	CONNECTOR(MALE) 6P	1	
P6013		VJS1410	CONNECTOR(FEMALE) 20P	1	
P6014		VJP1232R	CONNECTOR(MALE) 5P	1	
P6015		VJP1234T	CONNECTOR(MALE) 7P	1	
Q2001		MSC2295	TRANSISTOR	1	<R>
Q2002-05		MSD601	TRANSISTOR	4	<R>
Q6001		MSB709	TRANSISTOR	1	<R>
Q6002		MSB710	TRANSISTOR	1	<R>
Q6003		2SD1051	TRANSISTOR	1	<R>
Q6004		2SB641	TRANSISTOR	1	<R>
Q6005,06		2SB819	TRANSISTOR	2	<R>
Q6007		2SD636	TRANSISTOR	1	<R>
Q6008		2SB790	TRANSISTOR	1	<R>
Q6009		MSD601	TRANSISTOR	1	<R>
QR2001		MRN1403	TRANSISTOR-RESISTOR	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR6003		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR6004,05		MRN1404	TRANSISTOR-RESISTOR	2	<R>
QR6006,07		UN2210	TRANSISTOR-RESISTOR	2	<R>
QR6008-12		MRN1402	TRANSISTOR-RESISTOR	5	<R>
R2001,02		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	2	
R2003-05		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	3	
R2006		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R2007		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R2008		ERJ6CEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R2009		ERJ6GEYJ224	M.RESISTOR CH1/10W 220K	1	
R2010		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2011		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R2012,13		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R2014		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R2015		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2016		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R2017		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R2018,19		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R2020		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2021		ERJ6GEYJ824	M.RESISTOR CH1/10W 820K	1	
R2022		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2023		ERJ6GEYJ824	M.RESISTOR CH1/10W 820K	1	
R2024,25		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R2026		ERJ6GEYJ124	M.RESISTOR CH1/10W 120K	1	
R2027		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R2028		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2029		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R2030-32		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	3	
R2033		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2034		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2035		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R2036		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2037		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R2038		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2039		ERJ6GEYG334	M.RESISTOR CH1/10W 330K	1	
R2040		ERJ6GEYJ151	M.RESISTOR CH1/10W 150	1	
R2041		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2042,43		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	2	
R2044		ERJ6GEYJ822	M.RESISTOR CH1/10W 8.2K	1	
R2045		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2046		ERJ6GEYJ681	M.RESISTOR CH1/10W 680	1	
R2047		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R2048		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2049		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2050		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2051,52		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	2	
R2053-55		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	3	
R2056-58		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	3	
R2059-61		ERJ6GEYJ150	M.RESISTOR CH1/10W 15	3	
R2062		ERDS1TJ1R0	C.RESISTOR 1/2W 1.0	1	
R2063		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R2064		ERJ6GEYJ122	M.RESISTOR CH1/10W 1.2K	1	
R2065		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R2066		ERJ6GEYG752	M.RESISTOR CH1/10W 7.5K	1	
R2067		ERJ6GEYJ561	M.RESISTOR CH1/10W 560	1	
R2068,69		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R2070		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R2071,72		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	2	
R2073		ERX12ANJR47	M.RESISTOR 1/2W 0.47	1	
R2074		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R2075		ERJ6GEYJ331	M.RESISTOR CH1/10W 330	1	
R2076		ERJ6GEYJ393	M.RESISTOR CH1/10W 39K	1	
R2077		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2078		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R2079		ERG2ANJ101	M.RESISTOR 2W 100	1	
R2080		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R2081		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R2082		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R2083,84		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R2085,86		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	2	
R2087		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R2088		ERJ6GEYJ513	M.RESISTOR CH1/10W 51K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2089,90		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	2	
R2091		ERJ6GEYJ683	M.RESISTOR CH1/10W 68K	1	
R2092		ERJ6GEYJ513	M.RESISTOR CH1/10W 51K	1	
R2093		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2094-98		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	5	
R2301,02		ERDS2TJ104	C.RESISTOR 1/4W 100K	2	
R2303		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R6001-04		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	4	
R6005-08		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	4	
R6009		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6010,11		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	2	
R6012,13		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	2	
R6014-27		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	14	
R6028-31		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	4	
R6032		VRE0034E683	M.RESISTOR CH1/10W 68K	1	
R6033		VRE0034E392	M.RESISTOR CH1/10W 3.9K	1	
R6034		VRE0034E153	M.RESISTOR CH1/10W 15K	1	
R6035		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6036-39		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	4	
R6040		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R6041		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6042		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R6043		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6044		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R6045		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R6046		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6047		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R6048		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6049		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6054		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R6055		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R6056		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R6057		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R6058		ERJ6GEYJ681	M.RESISTOR CH1/10W 680	1	
R6059		ERJ6GEYJ823	M.RESISTOR CH1/10W 82K	1	
R6060		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6061		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6062		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R6063		ERJ6GEYJ224	M.RESISTOR CH1/10W 220K	1	
R6064		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6065		ERJ6GEYJ564	M.RESISTOR CH1/10W 560K	1	
R6066		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6067		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R6068		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R6069		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6070		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R6071		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6072		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R6073-75		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	3	
R6076		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6077		ERD2FCG820	C.RESISTOR 1/4W 82	1	
R6078		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6079		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R6080		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6081		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R6082		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R6083		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R6084		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6085		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R6086		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6087		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R6088		ERJ6GEYJ183	M.RESISTOR CH1/10W 18K	1	
R6089,90		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R6091		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R6092		ERJ6GEYJ182	M.RESISTOR CH1/10W 1.8K	1	
R6093		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R6094		ERQ12AJ2R7	F.RESISTOR 1/2W 2.7	1	
R6095		ERJ6GEYJ222	M.RESISTOR CH1/10W 2.2K	1	
R6096-00		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	5	
R6101,02		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	2	
R6103-08		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	6	
R6109		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
RY6001		VSY2041	RELAY	1	<R>
SW2001		VSS0126	SWITCH	1	<R>
VR2001,02		EVN38CA00B54	V.RESISTOR 50K	2	
X2001		VSX0326	CRYSTAL OSCILLATOR	1	<R>
X6001		VSX0230	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E62		VWJ0241	FLAT CABLE (24P)	1	<R>
E63		VSC1689	HEAT SINK	2	
E64		VMC0075	HEAT SINK SPRING	1	
E65		VHN0011	RIVET	2	
E66		VMZ1577	SHIELD BARRIER	1	
E67		VMC0493	HEAT SINK SPRING	1	
E72		VJF0818	CLUMPER	1	
	■	VEP02355A	REEL SERVO C.B.A.		
C2501		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C2502		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2503		ECEA0JKN470	E.CAPACITOR 6.3V 47U	1	
C2504		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2505		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2506		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C2507		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2508		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2509		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C2510		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2511		ECEA1HKR22	E.CAPACITOR 50V 0.22U	1	
C2512		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C2513		ECEA1HKR22	E.CAPACITOR 50V 0.22U	1	
C2514		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C2515		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2516,17		ECEA0JK220	E.CAPACITOR 6.3V 22U	2	
C2518		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2519		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2520		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2521		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2522		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2523		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C2524,25		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C2526-28		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C2529		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C2530		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C2531		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C2532		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2533		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C2534		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2535,36		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C2537,38		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C2539,40		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	2	
C2541-43		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	3	
C2544		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2545		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C2546		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C2547		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C2549		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C2550		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2551,52		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2553,54		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	2	
C2556-58		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	3	
C2559		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2560-62		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C2578		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
D2501		MA151WK	DIODE	1	<R>
D2503		MA151K	DIODE	1	<R>
D2504		MA151WK	DIODE	1	<R>
D2506-08		MA151K	DIODE	3	<R>
IC2501		AN3621NK	IC	1	<R>
IC2502		MN15542VMU	IC	1	<R>
IC2503,04		AN3834K	IC	2	<R>
IC2505		MN1280R	IC	1	<R>
IC2506		LM358P	IC	1	<R>
IC2507		LM324N	IC	1	<R>
IC2508		MC14053BCP	IC	1	<R>
IC2509		LM393P	IC	1	<R>
IC2510		MC14053BCP	IC	1	<R>
IC2511,12		MC14069UBCP	IC	2	<R>
IC2513		LM393P	IC	1	<R>
L2501		VLQEL05F101K	COIL 100UH	1	
P2502		VJP1243T	CONNECTOR(MALE) 3P	1	
P2503		VJP1235R	CONNECTOR(MALE) 8P	1	
P2504		VJP1229T	CONNECTOR(MALE) 2P	1	
P2505,06		VJS1413	CONNECTOR(FEMALE) 15P	2	
P2507		VJP1232T	CONNECTOR(MALE) 5P	1	
Q2501		2SD636	TRANSISTOR	1	<R>
QR1		UN1211	TRANSISTOR-RESISTOR	1	<R>
QR2501-04		MRN1404	TRANSISTOR-RESISTOR	4	<R>
QR2505,06		MRN2404	TRANSISTOR-RESISTOR	2	<R>
QR2507		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR2508		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR2509,10		MRN1404	TRANSISTOR-RESISTOR	2	<R>
QR2511		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR2512		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR2513,14		MRN2404	TRANSISTOR-RESISTOR	2	<R>
R2501		ERJ6GEYJ681	M.RESISTOR CH1/10W 680	1	
R2502,03		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	2	
R2504		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2505,06		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	2	
R2507		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R2508		ERJ6GEYJ224	M.RESISTOR CH1/10W 220K	1	
R2509		ERJ6GEYJ153	M.RESISTOR CH1/10W 15K	1	
R2510		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R2511		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R2512		ERJ6GEYJ681	M.RESISTOR CH1/10W 680	1	
R2513		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2514,15		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R2516		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2517		ERJ6GEYJ153	M.RESISTOR CH1/10W 15K	1	
R2518		ERJ6GEYG222	M.RESISTOR CH1/10W 2.2K	1	
R2519		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2520		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2521		ERJ6GEYJ393	M.RESISTOR CH1/10W 39K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2522		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R2523		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2524		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2525		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2526		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2527		ERJ6GEYJ823	M.RESISTOR CH1/10W 82K	1	
R2528		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2529		ERJ6GEYJ334	M.RESISTOR CH1/10W 330K	1	
R2530		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	1	
R2531		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	1	
R2532		ERJ6GEYG182	M.RESISTOR CH1/10W 1.8K	1	
R2533		ERJ6GEYJ224	M.RESISTOR CH1/10W 220K	1	
R2534		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2536		ERJ6GEYJ123	M.RESISTOR CH1/10W 12K	1	
R2537		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R2538		ERJ6GEYG363	M.RESISTOR CH1/10W 36K	1	
R2539		ERJ6GEYJ123	M.RESISTOR CH1/10W 12K	1	
R2540		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R2541		ERJ6GEYJ184	M.RESISTOR CH1/10W 180K	1	
R2542		ERJ6GEYJ821	M.RESISTOR CH1/10W 820	1	
R2543		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R2544		ERJ6GEYJ221	M.RESISTOR CH1/10W 220	1	
R2545		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	1	
R2546		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R2547		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2548		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R2549		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2550		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R2551-53		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	3	
R2554		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R2555		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2556		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R2557		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	1	
R2558		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2559		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R2560-63		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	4	
R2564		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2565,66		ERJ6GEYJ223	M.RESISTOR CH1/10W 22K	2	
R2567,68		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	2	
R2569		ERJ6GEYG222	M.RESISTOR CH1/10W 2.2K	1	
R2570,71		ERJ6GEYG223	M.RESISTOR CH1/10W 22K	2	
R2572		ERJ6GEYG182	M.RESISTOR CH1/10W 1.8K	1	
R2574		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R2575,76		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R2577		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	1	
R2578,79		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R2580		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2581		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R2582		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R2583		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2584		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R2585		ERJ6GEYJ562	M.RESISTOR CH1/10W 5.6K	1	
R2586		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2587		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R2588		ERJ6GEYJ272	M.RESISTOR CH1/10W 2.7K	1	
R2589		ERJ6GEYJ392	M.RESISTOR CH1/10W 3.9K	1	
R2591,92		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	2	
R2593		ERJ6GEYJ221	M.RESISTOR CH1/10W 220	1	
R2594		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R2595		ERDS2TJR56	C.RESISTOR 1/4W 0.56	1	
R2596		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	1	
R2597		ERJ6GEYJ563	M.RESISTOR CH1/10W 56K	1	
R2598		ERJ6GEYJ393	M.RESISTOR CH1/10W 39K	1	
R2599		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R2600		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2602,03		ERJ6GEYJ330	M.RESISTOR CH1/10W 33	2	
R2604		ERJ6GEYJ221	M.RESISTOR CH1/10W 220	1	
R2605		ERJ6GEYJ104	M.RESISTOR CH1/10W 100K	1	
R2607		ERJ6GEYG202	M.RESISTOR CH1/10W 2K	1	
R2608		ERJ6GEYG152	M.RESISTOR CH1/10W 1.5K	1	
RA2501,02		EXBLD4103G	COMBI.R-R	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
X2501		VSX0082	CRYSTAL OSCILLATOR	1	<R>
	■	VEP06632A	MODE SELECT C.B.A.		
C6501		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
IC6501		MC14051BCP	IC	1	<R>
P6501		VJP1410	CONNECTOR(MALE) 20P	1	
R6501		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R6502-10		ERDS2TJ473	C.RESISTOR 1/4W 47K	9	
SW6501-04		VSS0162	SWITCH	4	<R>
SW6506		VSS0162	SWITCH	1	<R>
SW6508-12		VSS0126	SWITCH	5	<R>
VR6501		EVUE3AH20B15	V.RESISTOR 100K	1	
VR6502		EVN32CA00B54	V.RESISTOR 50K	1	
	■	VEP06621A	FRONT (1) C.B.A.		
D6601		LN38GCPPSVT	LED	1	<R>
D6602,03		VLL0030	LED	2	<R>
D6604-07		LN38GCPPSVT	LED	4	<R>
P6601		VJP1393T	CONNECTOR(MALE) 13P	1	
P6602		VJP1233T	CONNECTOR(MALE) 6P	1	
P6603		VJP1231T	CONNECTOR(MALE) 4P	1	
R6601-07		ERDS2TJ561	C.RESISTOR 1/4W 560	7	
R6609		ERDS2TJ564	C.RESISTOR 1/4W 560K	1	
R6610		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R6611		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R6614		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R6615		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R6616		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R6618		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R6619		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R6620		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
SW6601		EVQQSB05G	SWITCH	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR6601,02		EVUF3AS01A14	V.RESISTOR 10K	2	
VR6603,04		EVUF3AS01B24	V.RESISTOR 20K	2	
			MISCELLANEOUS		
E40		VMX1796	LED SPACER	1	
E41		KL02	LED SPACER	3	
E42		VJF0825	LED HOLDER	1	
E43		TJC6319	FUSE HOLDER	2	<!><R>
E44		VSE0036	HOUR METER	1	
	■	VEP06622A	FRONT (2) C.B.A.		
P6701		VJP1878T	CONNECTOR(MALE) 8P	1	
R6701-03		ERDS2TJ102	C.RESISTOR 1/4W 1K	3	
R6704		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R6705		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
			MISCELLANEOUS		
E51		VJR0399	TEST TERMINAL	6	
	■	VEP04288B	MODULAR JACK C.B.A.		
CA4801		EXFP61022W	COMBI.C-C	1	
P4801		VJP2844	CONNECTOR(MALE) 6P	1	
P4802		VJP1246T	CONNECTOR(MALE) 6P	1	
	■	VEP06626A	9P CONNECTION C.B.A.		
P6801		VJP1249T	CONNECTOR(MALE) 9P	1	
			MISCELLANEOUS		
E49		VJS2074	CONNECTOR 9P	1	
	■	VEP06625B	REMOTE CONTROL JACK C.B.A.		
C6901,02		ECKF1H102KB	C.CAPACITOR 50V 1000P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6901,02		MA165	DIODE	2	<R>
P6901		VJP1231R	CONNECTOR(MALE) 4P	1	
QR6901		UN1112	TRANSISTOR-RESISTOR	1	<R>
R6901		ERDS2TJ683	C.RESISTOR 1/4W 68K	1	
			MISCELLANEOUS		
E48		VJJ0268	JACK	1	
	■	VEP01404A	POWER CONNECTION (1) C.B.A.		
C1201		ECEA1VU331	E.CAPACITOR 35V 330U	1	
C1216,17		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	2	
IC1202		AN7812	IC	1	<R>
P1201		VJP1236R	CONNECTOR(MALE) 9P	1	
P1202		VJP1232R	CONNECTOR(MALE) 5P	1	
R1201		ERQ12HJ3R9P	F.RESISTOR 1/2W 3.9	1	
			MISCELLANEOUS		
E52		VSC1068	HEAT SINK	1	
	■	VEP01405A	POWER CONNECTION (2) C.B.A.		
C1202		ECEA1VU331	E.CAPACITOR 35V 330U	1	
C1203		ECEA1VU470	E.CAPACITOR 35V 47U	1	
C1204		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1205		ECCF1H820JC	C.CAPACITOR 50V 82P	1	
C1206		ECKF1H561KB	C.CAPACITOR 50V 560P	1	
C1207		ECKF1H271KB	C.CAPACITOR 50V 270P	1	
C1208-10		ECEA1HK010	E.CAPACITOR 50V 1U	3	
C1211		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C1212,13		ECEA1EU221	E.CAPACITOR 25V 220U	2	
C1214		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C1215		ECEA1CK101	E.CAPACITOR 16V 100U	1	
D1201		MA4100M	DIODE	1	<R>
D1202		MA4110M	DIODE	1	<R>
D1203,04		11EQS04	DIODE	2	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC1201		BA6149LS	IC	1	<R>
L1201,02		VLQ0129	COIL 300UH	2	
Q1201		2SD1275	TRANSISTOR	1	(P,Q,R)<R>
Q1202,03		2SB772	TRANSISTOR	2	(P,Q,R)<R>
R1202		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R1203		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R1204,05		ERDS2TJ154	C.RESISTOR 1/4W 150K	2	
R1206		ERX12SJR82	M.RESISTOR 1/2W 0.82	1	
R1207		ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R1208		ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R1209		ERX12SJR82	M.RESISTOR 1/2W 0.82	1	
R1210		ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R1211		ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
X1201		VSX0136	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E34		VSC2761	SHIELD CASE	1	
E35		VSC2762	SHIELD CASE	1	
E36		VSC2763	SHIELD CASE	1	
	■	VEP01440A	SW POWER (1) C.B.A.		
C1003,04		VCK0039	C.CAPACITOR 150P	2	
C1005		ECOS2GA820AA	E.CAPACITOR 400V 82U	1	
C1006		ECQE6473JZ	P.CAPACITOR 630V 0.047U	1	
C1007		ECKD3D331KBN	C.CAPACITOR 2KV 330P	1	
C1008		ECQB1H682JZ	P.CAPACITOR 50V 6800P	1	
C1009		ECEA2GG010	E.CAPACITOR 400V 1U	1	
C1010		ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C1011		ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1012		ECEA1HFE560	E.CAPACITOR 50V 56U	1	
C1013		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C1014		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1015		ECQP1101JZ	P.CAPACITOR 100V 100P	1	
C1016		ECEA1HGE101	E.CAPACITOR 50V 100U	1	
C1017		ECA1VFQ391	E.CAPACITOR 35V 390U	1	
C1018		ECA1VFQ221	E.CAPACITOR 35V 220U	1	
C1019		ECA1AFZ681	E.CAPACITOR 10V 680U	1	
C1020		ECA1VFQ681	E.CAPACITOR 35V 680U	1	
C1021		ECEA1DPS681X	E.CAPACITOR 20V 680U	1	
C1022		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1023		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1024,25		ECEA1AGE101	E.CAPACITOR 10V 100U	2	
C1026		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1029		ECQU2A224MN	P.CAPACITOR 100V 0.22U	1	
D1001		S1WBA60	DIODE	1	<R>
D1002		VSD0002	DIODE	1	<R>
D1003		AP01C	DIODE	1	<R>
D1004		MA4030L	DIODE	1	<R>
D1005		MA165	DIODE	1	<R>
D1006		MA178	DIODE	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D1007		ERA22-02	DIODE	1	<R>
D1008		RL4ZPLF	DIODE	1	<R>
D1009		FMLG12SP	DIODE	1	<R>
D1010		31DQ04FC6	DIODE	1	<R>
D1011		MA2200B	DIODE	1	<R>
F1002		XBA2C12TB0	FUSE	1	<!><R>
IC1001		STRD6008X	IC	1	<R>
IC1002		STK5391	IC	1	<R>
IC1003		SE013E	IC	1	<R>
L1002		VLQ0335	COIL	1	
L1003		VLQ0354	COIL	1	
P1001		VJP1248T	CONNECTOR(MALE) 8P	1	
Q1001		PC111	PHOTO COUPLER	1	<R>
R1003,04		ERDS1TJ563	C.RESISTOR 1/2W 56K	2	
R1005,06		ERDS2TJ474	C.RESISTOR 1/4W 470K	2	
R1007		ERG3ANJ683	M.RESISTOR 3W 68K	1	
R1008		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1009		ERD2FTVG681	C.RESISTOR 1/4W 680	1	
R1010		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R1011		ERG2SJ330	M.RESISTOR 2W 33	1	
R1012		ERG3SJ270	M.RESISTOR 3W 27	1	
R1013		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1014		ERQ12HJ680	F.RESISTOR 1/2W 68	1	
R1015		ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1016		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
T1001		VLT0620	TRANSFORMER	1	<!><R>
TH1001		VRT0028	THERMISTOR	1	
			MISCELLANEOUS		
E56		VJF0318	FUSE HOLDER	2	<!><R>
E77		VMZ0965	CAPACITOR COVER	1	
E78		VMZ1305	CAPACITOR COVER	1	
	■	VEP01441A	SW POWER (2) C.B.A.		
C1001		ECQU2A823MN	P.CAPACITOR 100V 0.082U	1	
C1027,28		VCK0045	C.CAPACITOR 250V 1500P	2	
F1001		XBA2C20TB0	FUSE	1	<!><R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L1001		ELF18D423	COIL	1	
			MISCELLANEOUS		
E57		VJF0318	FUSE HOLDER	2	<!><R>
E58		VMZ0429	FUSE COVER	1	
E59		VMZ1305	CAPACITOR COVER	1	
E60		VMZ0965	CAPACITOR COVER	2	
	■	VEP05151C	HEAD AMP C.B.A.		
C5501,02		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C5503		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5504		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C5505,06		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C5507		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C5508		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C5509		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C5510		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C5511		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5512		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C5513		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C5515		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C5517		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C5518		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C5520		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C5521		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5525,26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C5528		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C5529		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
C5531		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
C5533,34		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	2	
C5551		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C5552		ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C5553-58		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C5559		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C5560		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C5561,62		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C5563,64		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C5565		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C5566		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
D5501		MA151K	DIODE	1	<R>
IC5501		AN3334K	IC	1	<R>
IC5551		BA7740FS	IC	1	<R>
L5501		VLQEL05F101K	COIL 100UH	1	
L5502		VLQEL05F330K	COIL 33UH	1	
L5551,52		VLQEL05F101K	COIL 100UH	2	
P5501		VJP1250T	CONNECTOR(MALE) 10P	1	
P5502		VJS1927	CONNECTOR(FEMALE) 10P	1	
P5551		VJP1247T	CONNECTOR(MALE) 7P	1	
Q5501		MSB709	TRANSISTOR	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5501		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R5502		ERJ6GEYJ101	M.RESISTOR CH1/10W 100	1	
R5503		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R5504		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R5505		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	1	
R5506,07		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	2	
R5508		ERJ6GEYJ471	M.RESISTOR CH1/10W 470	1	
R5510		ERJ6GEYJ100	M.RESISTOR CH1/10W 10	1	
R5511		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R5512		ERJ6GEYJ100	M.RESISTOR CH1/10W 10	1	
R5513		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R5514		ERJ6GEYJ331	M.RESISTOR CH1/10W 330	1	
R5516-18		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	3	
R5551		ERJ6GEY0R00	M.RESISTOR CH1/10W 0	1	
R5552		ERJ6GEYJ333	M.RESISTOR CH1/10W 33K	1	
R5553		ERJ6GEYJ103	M.RESISTOR CH1/10W 10K	1	
R5554		ERJ6GEYG243	M.RESISTOR CH1/10W 24K	1	
R5555		ERJ6GEYJ391	M.RESISTOR CH1/10W 390	1	
R5556		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R5557,58		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	2	
R5559		ERJ6GEYJ273	M.RESISTOR CH1/10W 27K	1	
R5560		ERJ6GEYJ153	M.RESISTOR CH1/10W 15K	1	
R5561		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R5562,63		ERJ6GEYJ152	M.RESISTOR CH1/10W 1.5K	2	
R5564		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R5565		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R5566		ERJ6GEYJ100	M.RESISTOR CH1/10W 10	1	
VR5501,02		EVN32CA00B13	V.RESISTOR 1K	2	
			MISCELLANEOUS		
E45		VSC3119	SHIELD CASE	1	
E46		VSC3040	SHIELD CASE	1	
E47		VSC3039	SHIELD CASE	1	
	■	VEP06627A	REAR JACK (1) C.B.A.		
J6201		VJJ0253	JACK	1	
J6202		VJJ0251	JACK	1	
P6202		VJP1877T	CONNECTOR(MALE) 6P	1	
	■	VEP06628A	REAR JACK (2) C.B.A.		
J6301-04		VJJ0083	JACK	4	
P6301		VJP1879T	CONNECTOR(MALE) 8P	1	
P6302		VJP1874T	CONNECTOR(MALE) 3P	1	
R6301		ERDS2TJ750	C.RESISTOR 1/4W 75	1	

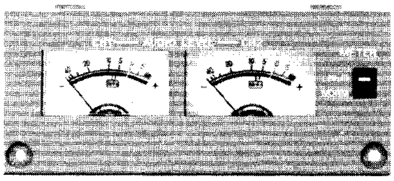
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
SW6301		VSS0297	SWITCH	1	<R>
			MISCELLANEOUS		
E50		VMP2647	ANGLE	1	
	■	VEP06630B	34P CONNECTION C.B.A.		
C6551		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C6553		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
CA6551,52		EXFP4102ZW	COMBI.C-C	2	
CA6553		EXFP6102ZW	COMBI.C-C	1	
FL6551		VLF0630	FILTER	1	
P6551		VJP1251T	CONNECTOR(MALE) 11P	1	
P6552		VJP1246T	CONNECTOR(MALE) 6P	1	
			MISCELLANEOUS		
E37		VJS1327	CONNECTOR 34P	1	
	■	VEP01407B	AC LINE CONNECTION C.B.A.		
C1101,02		ECQU2A224MN	P.CAPACITOR 100V 0.22U	2	
L1101		ELF18D624F	COIL	1	
P1101		VJP2639	CONNECTOR(MALE) 4P	1	
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	
			MISCELLANEOUS		
E53		VMP2645	ANGLE	1	
E54		VMP2646	ANGLE	1	
E55		VJF0867	CONNECTOR SPACER	1	
E74		VMZ1305	CAPACITOR COVER	2	
E75		SJT777	TERMINAL	2	
E76		VMZ1664	LINE FILTER COVER	1	
	■	VEP00P76A	MOTOR BASE C.B.A.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C20001		ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1	
C20002		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C20003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C20004		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C20005		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
IC20001		UPC358G2	IC	1	<R>
P20001		VJS1441	CONNECTOR(FEMALE) 24P	1	
P20002		VJS1685	CONNECTOR(FEMALE) 15P	1	
P20006		VJP1232T	CONNECTOR(MALE) 5P	1	
P20007		VJP1229G	CONNECTOR(MALE) 2P	1	
R20001		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R20002		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R20003		ERJ6GEYJ474	M.RESISTOR CH1/10W 470K	1	
R20004		ERJ6GEYJ102	M.RESISTOR CH1/10W 1K	1	
R20005		ERJ6GEYJ473	M.RESISTOR CH1/10W 47K	1	
R20006		ERJ6GEYJ474	M.RESISTOR CH1/10W 470K	1	
R20007-10		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	4	
	■	VEK2657	TENSION DETECTOR UNIT		
Q1504		ON1301	PHOTO INTERRUPTOR	1	<R>
R1502		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
	■	VEK3578	PHOTO TR. (L) UNIT		
C1501		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
Q1501		PN150NVS	PHOTO TR.	1	
			MISCELLANEOUS		
E68		VMD0645	PHOTO TR. HOLDER	1	
	■	VEK4058	PHOTO TR. (R) UNIT		
C1502		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	

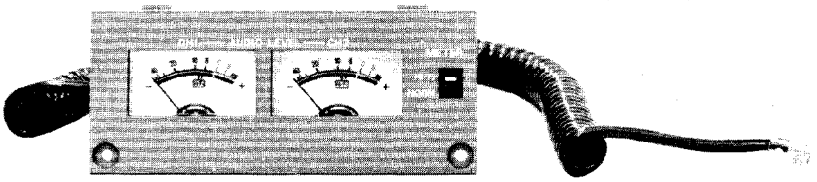
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1508		VJS1265	CONNECTOR(FEMALE) 6P	1	
Q1502		PN150NVS	PHOTO TR.	1	<R>
R1503		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
			MISCELLANEOUS		
E69		VMD0645	PHOTO TR. HOLDER	1	
	■	VEP00Q72A	ID DUMMY C.B.A.		
P3551		VJP1231B	CONNECTOR(MALE) 4P	1	
P3552		VJP1232G	CONNECTOR(MALE) 4P	1	

Memo

Audio Meter
AG-AM10
Audio Meter Unit
AG-AM20



(AG-AM10)



(AG-AM20)

SPECIFICATIONS (AG-AM10/20)

ITEM	SPECIFICATION
Operating Condition	Temperature: 41°F (5°C)~104°F (40°C) Humidity: 35%~80%
Dimensions	AG-AM10-P: 120.5 (W)×32 (D)×50.5 (H) mm AG-AM20-P: 121 (W)×42.5 (D)×52.5 (H) mm
Weight	AG-AM10-P: Approx 80 g AG-AM20-P: Approx 300 g

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AG-AM10/AG-AM20

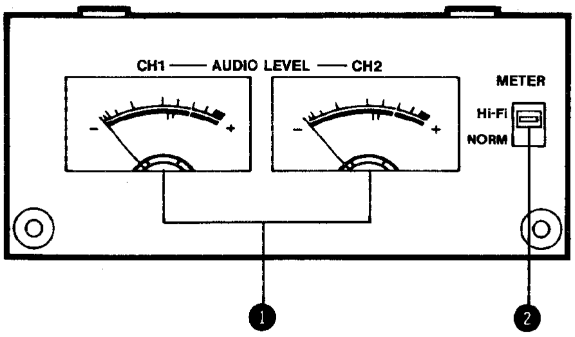
■ Audio Meter AG-AM10

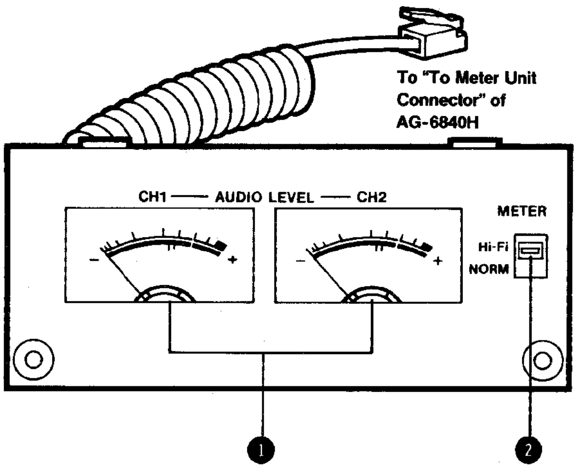
When this Audio Meter is installed onto the AG-6840H peak meter section, it is use to set and confirm the audio input level. Use the "Audio Input Level Controls" provided on the front panel of the AG-6840H for adjusting.

■ Audio Meter Unit AG-AM20

This unit is a compact audio meter used to set and confirm the audio input level of AG-6840H.

It can easily be used only by connecting to the "To Meter Unit Connector" provided on the front panel of the AG-6840H. Use the "Audio Input Level Controls" for adjusting.




To "To Meter Unit Connector" of AG-6840H
CH1 —— AUDIO LEVEL —— CH2
METER
Hi-Fi
NORM
−
+
−
+
1
2

❶ Audio Level Meter

The meter indication can be switched between Normal and Hi-Fi Audio by means of the Meter Selector.

❷ Meter Selector

This selector selects between Normal and Hi-Fi Audio for Audio Level Meter.

■ Audio Level Adjustment

Adjust the audio input of AG-AM10/AG-AM20 to indicate −8 dB when standard signal (1 kHz, −8 dBv) is input. Be sure to confirm before using.

Without this unit, initial setting (audio level) of the VTR cannot be set.
The audio level of AG-6840H is set to −8 dB.

ELECTRICAL ADJUSTMENT PROCEDURES

AUDIO LEVEL METER ADJUSTMENT

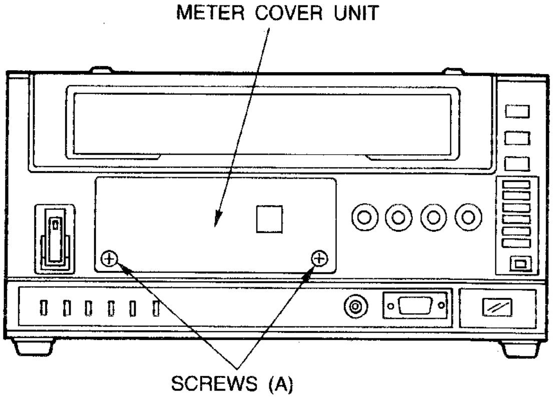
TP	ADJ.	MODE	INPUT
	VR4801 (CH1) VR4802 (CH2)	STOP	8 dBV 1 kHz
TAPE	M. EQ	SPEC.	
	AUDIO METER	−8 ±1 dB	

Note:
Prepare one Unit (AG−6840 etc.) which is completed the "AUDIO PREAMP ADJUSTMENT".

1. Connect the Audio Meter to the Unit.
2. Set the Audio VRs on the Unit to center fixed position.
3. Adjust VR4801 (VR4802) so that the measurement becomes −8 +/− 1dB.

INSTALLING TO AUDIO METER (AG−AM10)

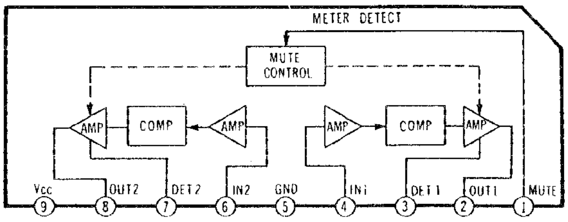
(1) Turn the POWER SW off.
Unscrew 2 screws (A). Remove Meter Cover Unit.


METER COVER UNIT
SCREWS (A)

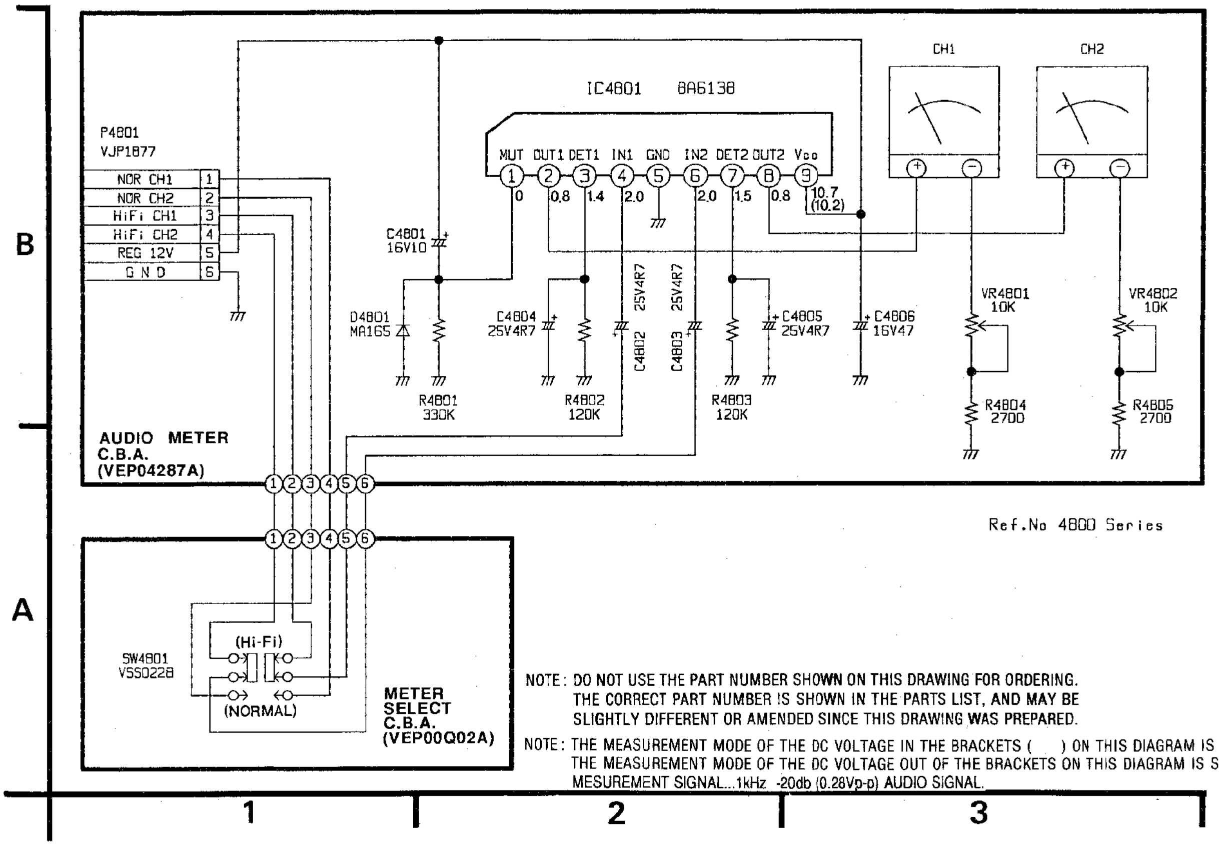
(2) Disconnect a connector (P4802) on the Meter Cover Unit.
Connect above connector to P4801 on the AG−AM10.
Assemble the Meter Cover Unit by using 2 screws (A).

IC INFORMATION

IC4801 BA6138


METER DETECT
MUTE CONTROL
AMP
COMP
AMP
AMP
COMP
AMP
Vcc
OUT2
DET2
IN2
GND
IN1
DET1
OUT1
MUTE
9
8
7
6
5
4
3
2
1

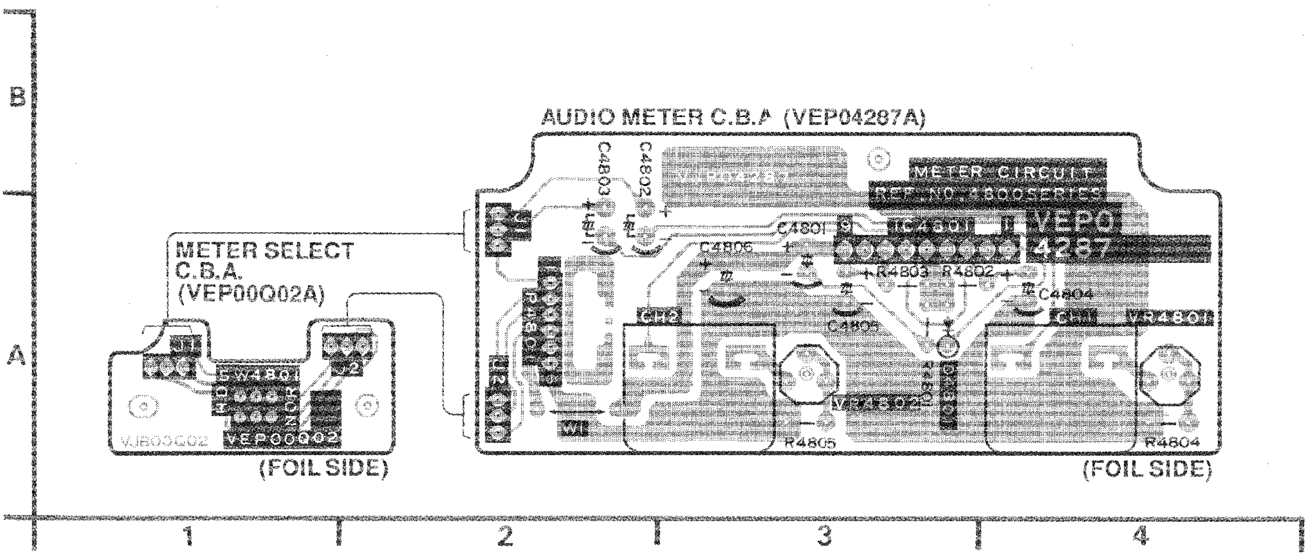
AUDIO METER SCHEMATIC DIAGRAM


B
A
1
2
3
P4801
VJP1877
NOR CH1
NOR CH2
HiFi CH1
HiFi CH2
REG 12V
GND
IC4801 BA6138
MUT OUT1 DET1 IN1 GND IN2 DET2 OUT2 Vcc
0 0.8 1.4 2.0 2.0 1.5 0.8 10.7 (10.2)
C4801 16V10
D4801 MA165
R4801 330K
C4804 25V4R7
R4802 120K
C4802 25V4R7
C4803 25V4R7
R4803 120K
C4805 25V4R7
C4806 16V47
CH1
CH2
VR4801 10K
VR4802 10K
R4804 2700
R4805 2700
AUDIO METER C.B.A. (VEP04287A)
Ref.No 4800 Series
SW4801 VSS0228
(Hi-Fi)
(NORMAL)
METER SELECT C.B.A. (VEP00Q02A)

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

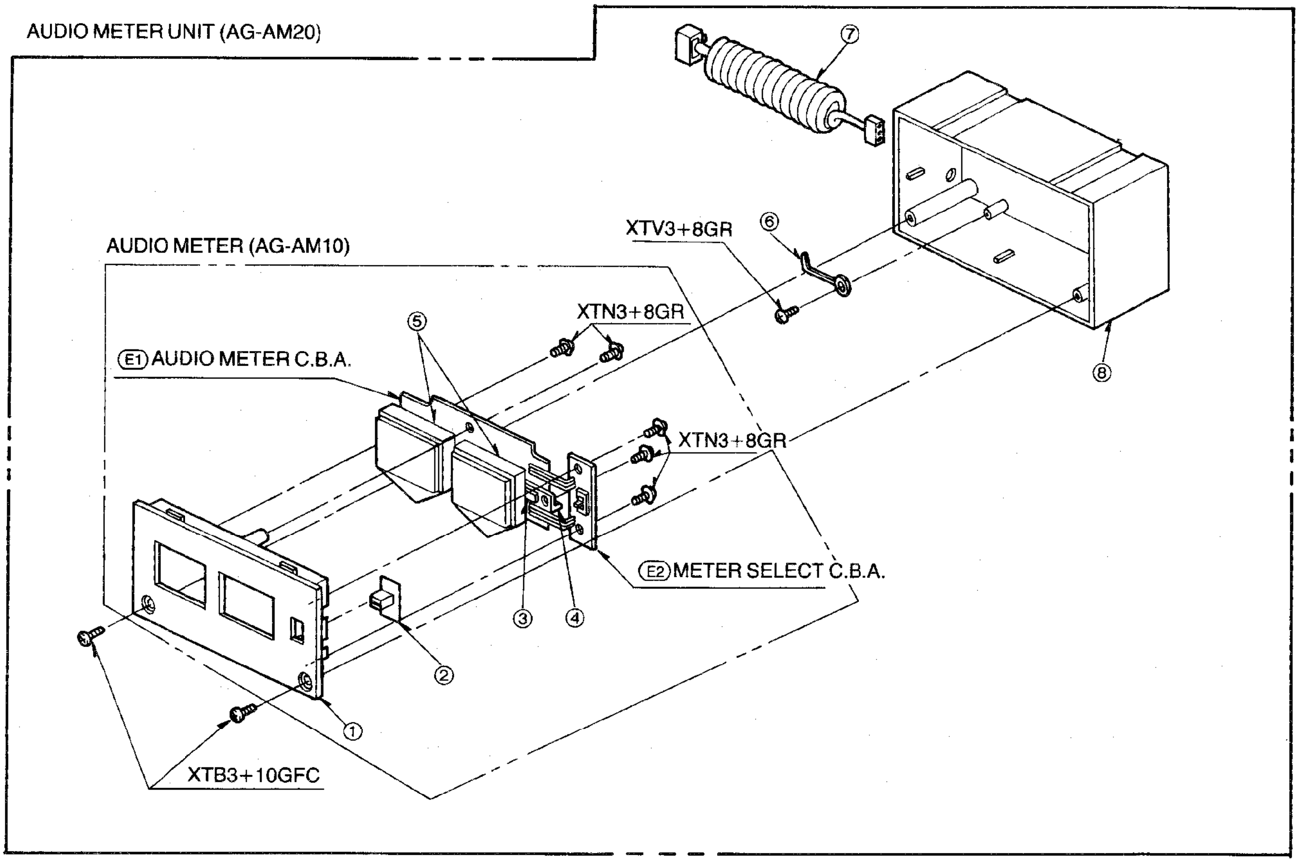
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE. MESUREMENT SIGNAL...1kHz -20db (0.28Vp-p) AUDIO SIGNAL.

AUDIO METER C.B.A. (VEP04287A) AND METER SELECT C.B.A. (VEP00Q02A)

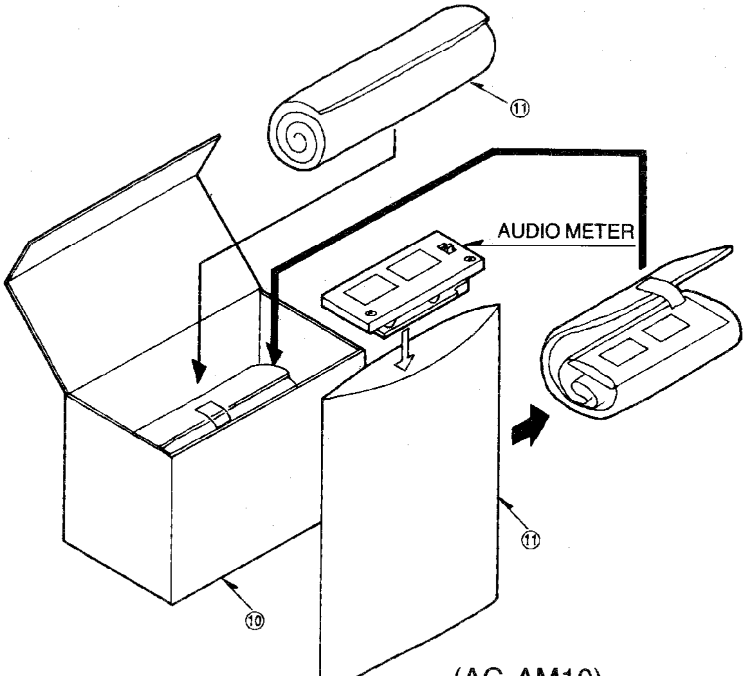

B
A
1
2
3
4
AUDIO METER C.B.A (VEP04287A)
METER SELECT C.B.A. (VEP00Q02A)
C4803
C4802
C4801
C4806
IC4801
METER CIRCUIT
REF NO 4800SERIES
VEPO 4287
R4803
R4802
C4804
C4805
P4801
CH2
CH1
VR4801
VR4802
R4805
R4804
W1
SW4801
VEP00Q02
VJB00Q02
(FOIL SIDE)
(FOIL SIDE)

EXPLODED VIEWS

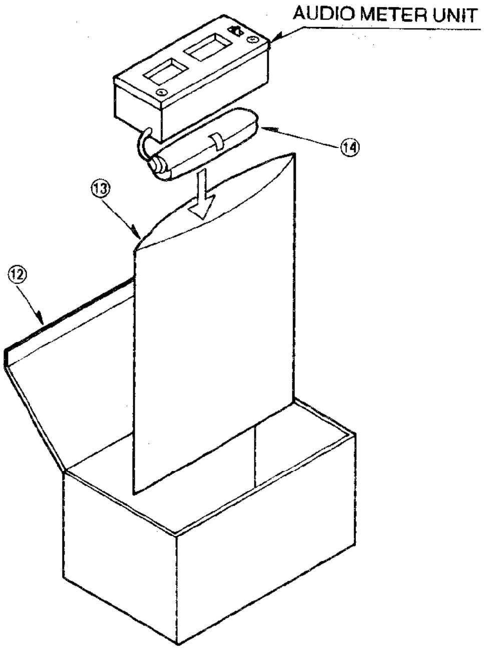
❶ *Casing Parts Section*


AUDIO METER UNIT (AG-AM20)
⑦
XTV3+8GR
⑥
AUDIO METER (AG-AM10)
XTN3+8GR
⑤
Ⓔ1 AUDIO METER C.B.A.
⑧
XTN3+8GR
Ⓔ2 METER SELECT C.B.A.
③
④
②
①
XTB3+10GFC

❷ *Packing Parts Section*


⑪
AUDIO METER
⑪
⑩

(AG-AM10)


AUDIO METER UNIT
⑭
⑬
⑫

(AG-AM20)

REPLACEMENT PARTS LIST

Notes:

1. • Be sure to make your orders of replacement parts according to this list.
   • "<R>" in Remark column indicates recommended parts.
2. IMPORTANT SAFETY NOTICE
   Components identified by " ! " have special characteristics important for safety. When replacing any of these components, use only the original ones.
   Meaning of symbol ! on this parts list is exactly the same as symbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified;
   All resistors are in OHMS (Ω), K=1,000Ω, M=1,000KΩ.
4. ITEM NUMBERS WITH CAPITAL LETTER E
   Item numbers with capital letter E (Example: E1, E2,...) in Ref. No. column mean that the parts are listed with the E item numbers in the exploded views.
5. The main assembled parts are shown below C.B.A. marked with "■".
6. When ordering parts, use part No. only from Part No. column.
7. Printed circuit board assembly with mark (NLA) is no longer available after discontinuation of the product.

1. MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VGP2504	METER COVER	1	<R>
2(1)		VGU2707	SLIDE KNOB	1	<R>
3(1)		VMX1811	METER SPACER	1	
4(1)		VMP2648	METER ANGLE	1	
5(1)		VSE0110	METER	2	<R>
6(1)		VJR3	CLUMPER	1	AG-AM20-P ONLY
7(1)		VEE6056	CURL CORD	1	AG-AM20-P ONLY
8(1)		VKM2356	BOTTOM CASE	1	<R> AG-AM20-P ONLY
10(2)		VPG5239	PACKING CASE	1	<R> AG-AM10-P
11(2)		VPF0527	CUSHION	2	AG-AM10-P
12(2)		VPG5239	PACKING CASE	1	<R> AG-AM20-P
13(2)		VPF0527	CUSHION	1	AG-AM20-P
14(2)		VPN2745	CUSHION	1	AG-AM20-P

2. ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E1		VEP04287A	AUDIO METER C.B.A.	1	(NLA)<R>
E2		VEP00Q02A	METER SELECT C.B.A.	1	(NLA)<R>
	■	VEP04287A	AUDIO METER C.B.A.		
C4801		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4802-05		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	4	
C4806		ECEA1CK470	E.CAPACITOR 16V 47U	1	
D4801		MA165	DIODE	1	<R>
IC4801		BA6138	IC	1	<R>
P4801		VJP2622	CONNECTOR(MALE) 6P	1	
R4801		ERDS2TJ334	C.RESISTOR 1/4W 330K	1	
R4802,03		ERDS2TJ124	C.RESISTOR 1/4W 120K	2	
R4804,05		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	2	
VR4801		EVN38CA00B14	V.RESISTOR 10K	2	
	■	VEP00Q02A	METER SELECT C.B.A.		
J1,2		VWJ03CN040BB	FLAT CABLE 3P	2	
SW4801		VSS0228	SWITCH	1	<R>